



*Quercus Marina or Sea Wreck, one side with
Pods the other side without? —
2. Madrepore. — 3. Coralline. — 4. Coral. —*

114
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A

DISSERTATION

On the USE of

SEA-WATER

IN THE

DISEASES of the GLANDS.

PARTICULARLY

The Scurvy, Jaundice, King's-Evil, Leprosy, and the Glandular Consumption.

Translated from the Latin of

RICHARD RUSSEL, M. D.

By an EMINENT PHYSICIAN.

Θάλασσα κλύζει πάντα τ' ἀνθρώπων κακά

The Sea washes away all the Evils of Mankind.

Eurip. Iphig. in Taur. V. 1193.

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T H E

P R E F A C E.

IN the following Treatise I offer to the READER's Consideration, a few Cases relating to such Maladies as have yielded to the Efficacy of SEA-WATER ; and have attempted to explain the Manner of its Operation in vanquishing the Diseases of the Glands. However, as so powerful a Medicine, in my Opinion, cannot fail of being of far more extensive Use, I promise myself the most accurate Enquiries will be made into its Nature ; and that future Experiments will determine how much farther it will be beneficial to Mankind.

However, I think it proper to introduce this Work, by a few Observations that I and others have already made upon the Nature, constituent Parts and Qualities of SEA-WATER, for from hence, perhaps, a

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just Judgment may be form'd of what farther may be expected from its Assistance.

And as I have been assisted in these Enquiries by the ingenious and curious Experiments of several very learned Men, as *Hales, Boerhaave, Sepius, Marfilinus, Guidot*, and others, I thankfully acknowledge the Benefit I received from their Observations; and I should be ungrateful if I should not mention with due Regard, my very learned Friends, and eminent Physicians, *R. Frewin, M. Lee, E. Wilmot*, and *W. Lewis*, at whose Requests, and by whose Advice and Assistance, I undertook and compleated this Work; But to come to the Purpose.

Water is of itself without Taste or Smell, and being sprinkled in the Eye, gives no Pain; but is smooth and flexible, and cannot offend the Nerves, in any Sense: Besides, it is a Kind of common Menstruum or Dissolvent of all Salts, and seems by Nature designed for that Purpose; for though the Chrystals of Sea Salt are of a pyramidical Shape, of Sal Gem cubical, of Nitre prismatic, and Vitriol and Alum of different Forms, yet Water dissolves all their Particles, and receives them all in a Kind

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Kind of common Menstruum. Hence it is so remarkably ready to dissolve the soapy and gummous Particles of Bodies, and by the Influence of the Sun's Heat, it is made the chief Instrument in all chemical Extractions, both Natural and Artificial. But SEA-WATER abounds chiefly with Salt, as may be observ'd by those who in making Salt, boil it up to such a Consistence as will bear the Weight of an Egg.

That vast Collection of Waters which we call the Sea, surrounds the whole Earth, and consequently washes whatever is contained between its opposite Shores, as Submarine Plants, Salts, Fishes, Minerals, &c. and is therefore enrich'd with the Particles it receives from these Bodies, either being wash'd off, or passing into the Water by their Transpiration; for their fine and subtle Particles, continually thrown off by Transpiration, and endeavouring to escape into the Air, are intercepted by the Water, and mingled with it. But Salts chiefly bestow their Particles on the Water, and thereby preserve it from Putrefaction; from this Cause also, this Fluid acquires a more oily and soapy Quality than Spring-Water: And further, this whole Body of

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Waters

Waters is penetrated by certain sulphureous Steams or Effluvia.

All these Causes seem jointly to constitute this Fluid which we call the Sea, and which the omniscient Creator of all Things, seems to have designed to be a Kind of common Defence against the Corruption and Putrefaction of Bodies. Therefore, in those Regions where the Heat of the Sun is greatest, and consequently more apt to corrupt Fluids, the Sea is saltest, according to the Observations of those who sail under the Equator. But this wondrous Collection of Waters preserved from Corruption by the Aid of Salts, &c. performs the Will of the Omnipotent, by various Means; for the Sun separating the fresh Water from the Salt, and gently attracting it upwards, causes also many sulphureous and nitrous Particles to ascend in the same Vapours, which being driven thro' the Air, over all the immense Spaces of the Earth and Seas, are probably the Cause of all the various Phænomena and Changes of the Air. And when they have perform'd their destin'd Task in the Air, falling down in the Shape of Dew, Rain, Hail or Snow, they supply the Earth with

Moisture,

Moisture, afford Water to all Kinds of Animals, augment the Springs destined to the Use of Men with the purest Streams ; whence the superfluous Liquid runs into the Rivers, and back into the Sea, the common Parent of them all. And thus the Order of Things seems to be preserved.

These Things being premised, let us see what the most accurate Enquirers into Nature, what Physicians, and Chemists, have observed of the SEA-WATER and its principal Qualities, which are Four ; the First is, *Saltness* ; the Second, *Bitterness* ; the Third, *Nitrosity*, or a nitrous Quality ; and the Fourth, *Unctuosity*.

The First is so apparent, that none can be ignorant of it. The ingenious Dr. *Hales* computes, there are five Ounces and an half in a Gallon of SEA-WATER ; so that a Pint of SEA-WATER contains almost five Drams and an half, besides that bitter oleous Bitumen, and other Parts before-mentioned ; and that Dose is commonly sufficient in grown Persons, to give three or four smart Stools. The Chemists remark, that this Salt consists of a certain peculiar Acid and a mineral Alkali, but the acid Part is so intangled and restrained by

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by the other Part, that it can scarcely exert its Power in a concrete Form. And Salt is of such a fix'd Nature, that it never yields to Putrefaction: Whence it preserves other Bodies so remarkably; for, according to Dr. *Hales*, Spirit of Salt so powerfully resists Putrefaction, that three Drops thereof, in an Ounce of Water, will preserve Flesh a long Time. And in another Experiment he says, that putting raw Beef into SEA-WATER not well distill'd, the astringent Power of the Water was so great, that contracting the minute Blood-Vessels, no Blood would flow therefrom.

The next Quality is *Bitterness*, which it is supposed to acquire from the bituminous Parts of the subjacent Earth; for it is probable, that sulphureous Exhalations are expell'd thro' innumerable Passages by subterranean Fires, which impregnate the SEA-WATER, as the Fume of Sulphur penetrates Wine: Wherefore, it is very probable that SEA-WATER is the more bitter the deeper it is taken; and this sulphureous Bitumen ascends so plentifully in Distillation, that *Marfilinus* affirms, that the distilled SEA-WATER cannot be drank, for its Quantity of Bitumen which is more nau-
seous

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feous than its Saltnefs ; and he alfo fays, that there is fo great a Quantity of Bitumen in the *Mediterranean* and *Thracian* Seas, and more efpecially in the *Pacifick Ocean* ; as alfo that which wafhes the *East-Indian* Shores, that it fometimes appears floating upon the Surface of the Water ; and he judges it proceeds partly from the Veins of Coals, and partly from a Kind of Petroleum, which is found in various Parts of the Earth. The fame *Author* diffill'd fome Pit-Coal and found, that forty Grains of the volatile oleous Spirit of Coals, put into two Pints of Spring-Water, that was made as falt as Sea-Water, caufed it to be as bitter as the Water at the Surface of the Sea ; and fifty Grains made it as bitter as the deeper Sea-Water. And perhaps thefe bituminous and fulphureous Particles, do confiderably affift the Salt in difperſing Tumours ; for Phyſicians have always eſteem'd Bitumen to be a diſſolving Medicine, conſiſting of volatile Salt, Sulphur, and a little Earth. “ For all bituminous
“ Bodies have a Power of heating and diſ-
“ cuſſing, whence hot Baths and medicinal
“ Springs that contain Sulphur and Bitu-
“ men, are uſed with Succeſs to diſperſe
“ cold Humours in the Palfy, Epilepfy,
“ and

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“ and the like Distempers.” See *Epitom. Physicæ Sannert. p. 52.*

Therefore, from these Reasons we may judge, that the Bitterness of Sea-Water proceeds from a certain volatile oleous Spirit, with which it is remarkably impregnated, the Quality of which can only be discovered by the Effects.

The third Quality is *Nitrosity*. *Hales* found by several Experiments, that the bitter Salt, of which there is such a large Quantity in Sea-Water, was partly nitrous; and does not think it strange that such a nitrous Salt should be form'd in the bitter Salt, and in the oleous Bitumen of the Sea. He also thinks, that this bitter Salt abounds in Plants and Animals; and that the Sea-Water does not only contain a perfect Sea-Salt. but also an imperfect bitter Salt, and a Kind of sulphureous Bitumen. And also is of Opinion, that the subtle Sulphur which abounds in the Air, Dew, and Rain, &c. is extracted from that sulphureous Bitumen, by the Heat of the Sun; which promotes the Vegetation of the Fruits of the Earth. It has also been observed, that Sea-Water does not extinguish Fire so readily as Spring or fresh Water; and this is supposed to proceed from

from the nitrous Particles abounding in Sea-Water ; for Nitre consists of a saline, volatile, oleous Matter ; add to this, that the Sea-Water abounds with many bituminous and sulphureous Particles, if it be true, which some affirm, that it will not readily extinguish Fire, and therefore, *Lamps burn better with Salt in the Oil*, Macrobian. Saturnal. L. 7. Whence also *Plutarch* in the Beginning of his Book of *Natural Questions*, cites a Proverb used by the Antients, *Do not throw Sea-Water upon the Fire*, on Account of its Oilyness ; as he writes in the same Place.

Its last Quality is *Oilyness* ; for besides other Things, *Marsilius* observes, that there is an Oilyness or soapy Quality in distill'd Sea-Water, and he says, that two Pounds of distill'd Sea-Water, will not dissolve so much Salt as the same Quantity of Spring-Water by half a Dram, although their specific Gravities are equal, and attributes this to its Oilyness. The Antients also observed this Oilyness of Sea-Water, “ *There is a surprizing Oilyness in Sea-Water,*” Pliny L. 31. Cap. 7. and Father *Bourzes* affirms, that he observed in some Parts of the Ocean, such a remarkable Oilyness, that if a Cloth was dipp'd in it, it acquir'd a Viscidity ; and where the Way of the Ship made a brighter

Tract

Tract in the Water, there it was more greasy and viscid, and the Cloth being shook with a quick Motion, gave a great Light. See the 9th Vol. of the *Lettres de R. P. Missionaries*, Edit. Paris, Octavo. And indeed, that Viscidity or Oilyness is so evident, that Dr. Hales, by several accurate Distillations, found that Sea-Water, though deprived of its Salt, did yet retain a certain viscid Matter, which stuck to the Sides of the Vessel if the Water was disturbed, but sunk to the Bottom if it remained without Motion. This Oilyness is not found in Spring-Water. This Quality appears also in Salt, for if the cleanest common Salt is liquified in a moist Air, it lets fall its Earth with a certain oily, acrid, and austere Liquor.

It is certain, that Salts contribute greatly to all Cures that are performed by Medicinal Waters. They are found in *Bath Waters*, as we learn from the Experiments of *Guidot*; and *Sepius* found a large Quantity of a certain white and bitter Salt in the *Pyrmont Waters*.

All these Qualities, and some others which plainly appear in Sea-Water, give us great Hopes, that the *Materia Medica* may soon receive some extraordinary Addition from this Part of Nature.

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Plate I.

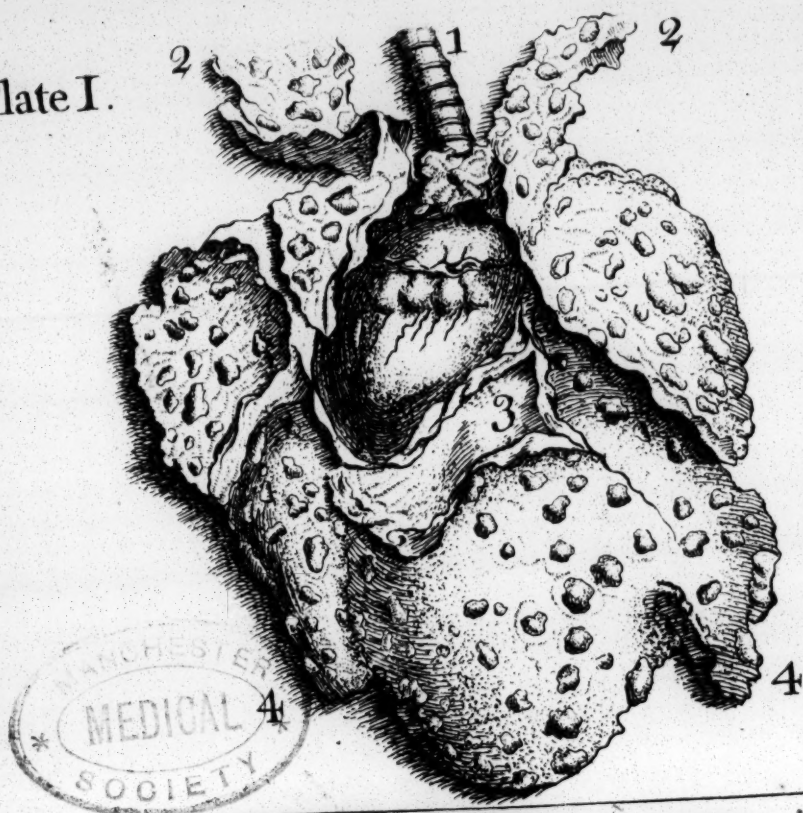


Plate II.



- Fig. 1. Part of the Windpipe.*
Fig. 2. Lobes of the Lungs.
Fig. 3. The Heart, & part of the Diaphragm.
Fig. 4. The Liver full of Tumors partly distended with Pus, and partly with Water.



A

DISSERTATION

ON A

GLANDULAR CONSUMPTION, &c.

THE *Consumption* which greatly afflicts our Island, and in the Cure of which, our Physicians find the greatest Difficulty, generally proceeds from a long continued Fluxion on the Glands of the Wind-Pipe, and its Branches, of the Lungs and other internal Parts. And this Distemper frequently arrives to such a State, before a Physician is consulted, that it is incurable: For it is in vain to expect a Physician should preserve the small Vessels from Ruptures, and keep the Fluids in a healthy State, when they are already burst and often eroded, not without the Diminution or Injury of some noble Part which Nature requires for the Continuance of Life, and which Art cannot restore; and when the Texture of the Fluids is already altered and vitiated by the purulent Matter resorb'd by the Blood, and circulates with it in a mingled Stream.

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2 A TREATISE OF THE

When this is the State of the Disease, we are not to seek for a Cure, but rather a new and miraculous Restoration of the Parts destroyed ; and this is the Reason, that this Disease is esteemed mortal by common Consent ; because it generally has made too great a Progress, before a Cure is attempted. So that upon my enquiring the Opinion of an eminent Physician, concerning a very dear Friend of mine, he told me, *He was in a Glandular Consumption, of which none ever did recover, nor ever would recover* ; which is true of those who have the Glands of the Mesentery or of the Lungs, or other internal Parts, filled or vitiated by the Retention of *Pus* or purulent Matter.

This being the Case, I hope my Studies will prove acceptable to my Country, if by the Assistance of *Sea Water*, I can relieve the Disorders of the internal Glands, and seasonably procure a Remedy in the *Beginning* of this most dangerous Disease ; and preserve the Lungs, that noble Part, from an Impostume. I say in the *Beginning*, because, if the *Pus* or Matter is already generated, there is then no Help to be expected from this Remedy. This ought to be well consider'd, because where a Cure is attempted in vain, though the Case is incurable by all the Power of Physick, it often happens that the Medicine is blam'd and rejected, as useless and of no Merit ; and is thought incapable of doing

USE OF SEA WATER. 3

ing what is really in its Power to perform. And this is the common Misfortune of all new Medicines ; for I have myself seen some Patients seeking Relief from *Sea Water*, when the purulent Matter was already form'd both in the external and internal Glands.

But what Applause can a Remedy receive from such Circumstances, or rather what Disgrace is it not like to meet with ? For in those I have seen, who died of a Consumption where the external Glands emitted *Pus*, and whose Bodies were allowed to be opened, I never met with any in which the Glands of the Mesentery remained entire ; on the Contrary, they were generally impostsuited ; and further, the Bronchia and the Glands of the Lungs, were so universally overspread with *Pus*, that wherever I made Use of the Knife, I could not help cutting the purulent Glands, which before they were open'd, look'd like Grains of Corn full of purulent Matter, pretty nearly resembling the miliary Glands found in a meazled Hog. See Figure I. *which represents the Liver and Lungs of a Hog, wherein the Glands of those Parts are strangely morbid.*

And indeed the Diseases of the Glands are more common, and rise to a greater Height in these than in most other Animals. Wherefore, the Inhabitants of the Eastern Countries avoid eating Swines Flesh as much as they can ; and

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because these Countries seem to be more afflicted than others with the Leprosy, Foulnesses of the Skin, and all Glandular Diseases; therefore, I judge, the celebrated Legislator of the *Jews* ordained so many Ablutions, and also Abstinence from Swines Flesh.

The internal Tumors of the Glands before described, undergo the same Changes as those that are external; therefore, they are to be restrained by the same Methods; likewise, every State of the Tumor has its peculiar Indication; but I think it needless to repeat those innumerable Distinctions that are commonly made; for they are generally divided into various Kinds, which are trifling and obscure; and consequently are more likely to lead the Reader into silly Disputes, than to throw any Light upon the Subject itself. Therefore, as my Design is chiefly to explain and illustrate the Method of Cure; I shall only say, that these *Tumors* are called by Paulus Egineta, *indurated or harden'd Glands*: And by Ætius, *whitish Flesh easily encreasing, contained in a Membrane, and growing hard upon the Surface of the Glands* which arise in the Neck, &c. and these Descriptions seem to me so accurate and perfect, that there is no need of any other.

I find most Authors greedily embracing certain hidden Causes, from which, as from Principles, they

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they would have all Distempers proceed ; but I think it proper to set all these aside, because they are for the most Part doubtful and obscure, and fit to create Disputes. Therefore, I shall only add two Observations which perhaps will be of Use to illustrate this Matter. The first is, that ricketty Children, and those that are affected with any Weakness of Body from the Cradle, and those that by bad nursing are of an infirm and lax Habit, are most liable to this Disease. The other is, that all those Remedies which the Ancients us'd in these Cases, were contrived to correct Acidities in the first Passages, and to prepare a sweet Chyle to improve the Blood.

I believe, no body doubts that this Disease is often caused by the Fault of the Nurse, or the too great Indulgence of the Parents. For it is scarcely to be told, how often the Foundation of this Disease is laid in the Cradle ; for at that Time of Life when the Child ought by Degrees to be used to the Changes of the Seasons, which Nature seems to require ; then you shall find it smother'd in Blankets, its Health impaired with Sweating, and the Heat of the Chamber, and by continuing at the Breast too long.

In the mean Time the Bowels of the Infant are constantly fretted with an acrid, sour Milk ; this produces frequent, and green acid Stools ; till sometimes, neglecting proper Remedies, it

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brings on Convulsions and Epileptic Symptoms. In this Case, the Nurse perhaps gives the Child a little Syrup of white Poppies, or something more powerful, to procure them both a little Repose.

It is a plain Sign in such Children, of the sudden Passage or Change of the Disease from one Kind of Glands to another ; because when those Evacuations cease which proceed from the Glands behind the Ears, then the Infant falls into the forementioned Gripes, accompanied with a slight Diarrhoea ; which if you stop by Diacordium, or any other Medicine, either the Disease is transferr'd to the Skin, or the Evacuation is renew'd by the Glands behind the Ears, or by the inguinal Glands, or some of the larger Emunctories.

But to return to the pernicious Custom of the Nurses. Whilst the Child by a too long continued Use of Opiates, is lulled to sleep, Chylification is perpetually injured ; the Habit of Body which Nature perhaps intended to be strong and healthy, by these Means is render'd lax and weak ; the Blood becomes serous, pale and morbid ; the Bulk of the Glands, which Nature design'd to moisten the Joints, daily increases, and the Heads of the Bones grow large ; then the Glands of the Mesentery, of the Breast, and the Neck are obstructed ; and at Length
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he Glands of the Lungs are infected with the common Taint.

And in all these Disorders, though the superfluous Humours may be carried off, in Women, by the Help of the Menfes, and by other Means in Men, while young; yet when they advance in Years, commonly after forty-five; or whenever these Helps fail, then the Glands before vitiated and relax'd, are attack'd with new Obstructions, incline to inflammatory Diseases and suppurate, insomuch that the Patient dies of a purulent Pthisis, unless the Disease is stopt in its Progress; for when once the Pus is fixt in the Glands it requires the Hand of the Surgeon, and not the Art of the Physician.

Some Time ago, I visited a Gentleman after a Fit, as he thought, of an intermitting Fever, for which he had taken the Bark; but finding his Pulse quick, accompanied with a certain hectic Heat, I judged the Shiverings were symptomatical, and that Pus was form'd in the Liver; for his Eyes were tinged with a yellowish Colour. His Habit of Body was full and inclining to Fat; and till that Time he had not been troubled with any violent Disease; having tried all Manner of febrifuge Medicines, I persuaded him to go to *London*; from thence he went to *Bath*, and returned again to *London*; at last he came back into the Country,

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where he died of a purulent Dropsy. After his Death, I found a vast Abscess in the convex Part of the Liver; some other Glands were burst, which had emitted a little Pus and Water into the Abdomen. But in the Lungs, where an Obstruction began to be formed, there appeared only some crude Tubercles, without any Pus.

I think this is a plain Demonstration that some Glands vitiate others, and arrive at a State of Suppuration by slow Degrees, and not by a sudden Progress.

I have also seen a large Tumor, to which several Clusters of morbid and scirrhous Glands adher'd; the Tumor was distended by a Matter like Bran, weighing eight Ounces, the Coat of the Glands was like the Membrane in the Gizzard of Turkey-Cocks, and other grainivorous Fowls; it was burst, and emitted Water constantly from the broken lymphatic Vessels thro' a small Passage under the Nipple; and was attended with no bad Symptoms for thirty Years. And although the Glands that adhered to the Tumor had at Length turned perfectly scirrhous, yet the Tension being removed by the Emission of the Humour before described, the Tumour was free from Pain, and no Suppuration arose in all that Time in any adventitious Tumors. *See Figure II. which represents one half of the cystic Tumor with its scirrhous Glands.*

I think

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I think it also plainly appears from what has been said, that in the foremention'd Distempers, where the Pus was form'd before the Cure was undertaken, that neither *Bath* nor *Sea-Water*, nor any other Medicine could be of great Service. But here we are not always to blame the Negligence of the Patient, for delaying the Assistance of Physic; for oftentimes the *Pus* is concealed in some unperceived Tubercle, and the Case becomes desperate before the Patient perceives any Disorder.

But I am now to consider the Diseases of the Glands, in doing which it will sufficiently answer my Design to give a general Idea of distemper'd Glands. I judge the Diseases of distemper'd Glands, to arise commonly from certain Obstructions proceeding from some Fluxion flowing faster upon the Glands than can be transmitted thro' their Tubes: Hence the Glands swell, their Coats are distended, and yield by Degrees to the growing Tumor, till the small Vessels burst, and *Pus* is form'd; or from the Tumors confin'd in a Membrane, either a * *Steatoma*, † *Atheroma*, or ‖ *Meliceris*, or something of this Kind is produced.

* *Steatoma* is a hard indolent encysted Swelling, which contains a Matter like Suet, of the same Colour throughout.

† *Atheroma* is an encysted Tumor, which is a little soft, without Redness, Heat, or Pain. It contains a whitish Matter like thin Paste.

‖ *Meliceris* is a round Swelling, void of Pain, easily yielding to the Fingers, and contains a yellow Matter like Honey in its proper Bag.

But those Remedies of the Ancients before-mention'd, for the lax and infirm Habit of their Patients, suggest to me these two Observations ; one, that by giving those Medicines which destroy the sharp Humours, and correct the Acidities collected in the Stomach and Intestines, a sweeter and more healthful Chyle is produced ; Flatulencies are repress'd in the Bowels ; and hence the Liver, Spleen, Pancreas, and Mesenteric Glands, are less obnoxious to Obstructions ; the *other*, that by *Sea Water* joined with other Medicines, the Glands may be successfully purg'd, and freed from Obstructions ; after which, it will be necessary to strengthen the whole Habit by cold Bathing in the Sea, and so fortify the Constitution against new Fluxions.

Hitherto I have treated of the Nature of distemper'd Glands in General ; but now I proceed to their different States ; of which a recent Fluxion on the Glands is first to be considered ; then the State of Augmentation ; then the State of Inflammation ; and lastly, the Termination of the Disease, either from dispersing the Tumor, or its turning into *Pus*, a *Schirrus* or a *Cancer*. And as my Design is principally to point out a Method of Cure in these Disorders, I think it proper to begin with the morbid State of the tracheal and pulmonary Glands.

When the concatenated Glands of the Neck, which are as it were linked together, and proceed

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ceed from the Ears to the Collar-Bones according to the Course of the Vessels of the Neck, appear swelled, and the Tonfils seem larger than usual, then there is Reason to suspect, that the internal Glands of the Mesentery and the Lungs, are affected by a recent Fluxion. But while there is no Fever, Aperient Medicines, with *Sea Water*, having first taken away some Blood, will effect a Cure; and these Steps are to be taken, though at the first Onset you find the Disorder is in the second Degree, or the State of Augmentation; for as the Glands are distended, so they subside by Degrees; and a sufficient Time must be allowed, not only to deterge and cleanse the small obstructed Tubes, but also to procure a safer and fitter Vent, by which the Humours that create Obstructions may be expelled.

And this is to be effected by the easiest and most gentle Methods, we are therefore upon no Account to make Use of violent stimulating Mercurial Medicines, for nothing is more hurtful in Obstructions of the Glands, than a sudden and violent Efflux of the Humours attracted towards the affected Parts by large Doses of *Mercurius dulcis*; which Medicine, if it is ever used, should be given cautiously and in small Doses, and soon after purged off with *Sea Water*.

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All the Glandular Secretions, in a healthful State, are perform'd slowly, and with Ease; therefore all Medicines that are of a Caustic Nature, stimulate and wound the tender Parts, and excite Pain. Hence either a Tubercle or a morbid Gland, which perhaps might otherwise be easily cured, if it is hastened to an inflammatory State, suppurates, and the Cure becomes far more difficult. On the Contrary, the Patient will bear the Stimulus of the *Sea Water*, six Months without any Inconvenience, and in an obstinate Disease of the Skin, I have known a Patient bear it tolerably well for a whole Year.

I insist more strongly upon these Matters, because I have known many Patients receive Damage by too large Doses of *Mercurius dulcis*, who, perhaps, might have received Benefit from this Medicine sparingly given, and joined with *Sea Water*. But *Sea Water* will heal many Diseases where Mercury is of no Service, and this puts me in Mind of the Case of a certain Patient which I shew'd to Dr. *Johnson* and Mr. *Craddock* the Surgeon about the Year 1731.

The Patient was almost covered over with a Scorbutic Leprosy, and having thrown off all other Cloaths, lay only in a Gown; almost every Part of his Body was excoriated, he had been twice salivated, under the Care of Dr. *Tanner*, of *London*, without any Benefit. Yet this
violent

violent Disease was subdued by *Sea Water*; but some other Disorders which afflicted the unhappy Patient, remained much in the same State.

Another Patient came to me from St. *Thomas's* Hospital, whose Case was not quite so bad; he had likewise been salivated to no Purpose, for he was hereby become lean and hectic, and the cuticular Eruptions were ranker and moister after Salivation. At first, he took Eryngiated Milk, and Vipers Flesh; by these Medicines the hectic Heat abated; and at Length, by the Use of *Sea Water*, the Disease of the Skin disappeared.

And indeed, where the Disease is exasperated by a great Acrimony, and when mineral Medicines do not agree with the Constitution, then Water and Asses Milk are most successfully used against the Scurvy.

I have hitherto treated of Tumours in the States of *Fluxion* and *Augmentation*. I shall now proceed to consider the State of *Inflammation*, that is, when the Disease is attended with a Fever, and then indeed the Tumours are to be esteemed true *Phlegmons* [inflamed Tumours] and are to be treated as such.

When a Fluxion, from any Cause, falls upon the tracheal and pulmonary Glands, they likewise grow diseased, and tumify in the same Manner as the external Glands; then the Irritation of
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the Fluxion produces a Fever, there arises a hard and dry Cough; the Face and Eyes are overspread with a Redness, a shooting Pain of the Head accompanies the Cough. This Cough Proceeds from the frequent Struggles of Nature to burst the morbid Glands, and thereby to expel the hidden Cause of the Tumor, that by this Means the tumified Part might be reduced and restored to a healthful State. But in these Cases, I think the *Sea Water* too much irritates the Disease, for the greatest Care ought to be taken that *Pus* should not be generated, which is never thrown out of the Lungs without the greatest Difficulty, because their loose Texture is so apt to retain it. But the minute and tender Vessels are broken by the continued Coughing; this produces an Hemoptoe, or Spitting of Blood, and afterwards larger Abscesses, and the Disease is terminated by a purulent hectic Fever.

But in this Case a new Method of Cure is to be pursued; for Bleeding must be used at proper Intervals, until the gelatinous or Buff Coat of the Blood, that resembles melted Suet, disappears; which, though it does not appear at the first Bleeding, yet is scarce ever concealed after the second or third Time. Then Purgatives of Manna, Cassia, Cream of Tartar, Tartar Vitriolate, or the like, are to be given; and the Patient is to be cooled with Emulsions of Nitre;
and

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and should use Water for Drink, abstaining from Flesh, Wine, and all Sorts of Malt Liquors; by these Means, generally, all the Signs of Inflammation are removed, the Cough, and the Pain of the Head no longer afflict the Patient, the Tumors subside, and though they are not entirely dispersed, yet by these Methods, like the external Glands, when they are in the same State, they are free from Pain, and are no great Trouble to the Patient. But if this Method is either neglected, or too sparingly, or too late pursued, then *Pus* is generated in the Glands, and the Patient, as I said before, is taken off by a hectic Fever.

Although in these Cases we perceive many Glands burst, and the *Pus* thrown out, yet we must not terrify the Mind of the Patient, we are rather to give Hopes that the Lungs may be cleansed by proper Medicines, by the Nitre of the Air, and by riding; for the Stiffness of the Fibres being lessened, either because the Inflammation is removed by Evacuations, or because the Parts affected have expelled the Burthen that oppressed them, and as their Tone is laxer, they are commonly better defended by their own Mucus, and therefore Exercise is then safer. A Change of Air ought also to be prescribed, and the Mouth and Nostrils defended from the extreme Chilness of the Air, and it is proper to breathe through some Covering, while the Parts
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are weak and tender ; for it appears to the celebrated *Boerhaave*, that hard riding against a cold Wind, hath often been the Cause of a Quinsey or a Pleurisy.

But *Cælius Aurelianus* greatly approves this Exercise, covering the Mouth, 'till the tender Parts can be defended by their own Mucus.

Therefore, it is evident, from what has been said, that in the inflammatory State of the pulmonary Glands, both the Mind and Body are to be kept very quiet, until, by Venæsection, Lenitives, and nitrous Medicines, the Tension of the minute Vessels is relaxed, and the Fluids freed from the Danger of Extravasation. For in the State of Tension, the Contractions of the Heart are too frequent, the Arteries are irritated, and the Blood circulates too quick. Whence the Inflammation increases, the Blood being driven with a great Force, into the small obstructed Tubes, which can neither bear its Impetus, nor afford it a Passage in this State of Obstruction ; therefore the Tension of the Vessels is necessarily augmented, and, without Help, an Extravasation must follow ; therefore, all Irritation is to be avoided as much as possible, that we may preserve the Vessels of the Glands sound and entire ; because upon this Circumstance, the Cure of the Patient entirely depends.

Sometimes,

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Sometimes also the Coat of the Gland grows thick, and the *Pus* is confined as in a strong Bag, from whence it cannot break out a long while. But, in this State of the Disease, neither *Sea Water*, nor any other Medicines can do any Good. The Cure must now be performed by the Art of Surgery only.

But I should be unjust not to give *Sea Water* its due Praise ; for it is certain, that I have seen few Tumors of the morbid Glands, which, if the *Pus* was not formed, I could not preserve from it, and afterwards disperse ; and also restore the first Form and Magnitude of the Glands, by a due Treatment of the glandular Secretions.

For these Reasons, in the inflammatory State of the Glands, all aloetic, rosinous, and mineral Medicines, are carefully to be avoided ; the unskilful or less cautious Use of which is always attended with the worst Consequences, which will appear plain by what follows in the Section concerning the Use of *Sea Water* in bilious Colics. The ancient Physicians shunn'd these Medicines, for they never used to prescribe strong Emetics or Cathartics, 'till the Stiffness or *Crispitude* of the Fibres was suppressed ; therefore, before the Use of Hellebore, they judg'd the Body was to be moistened and relaxed by warm Baths, and a diluting and cooling Regimen, abstaining from Exercise, Flesh, and Wine ; and indeed, through
the

the whole inflammatory State, where there was the least Fear of Suppuration, they used these Medicines with the greatest Caution, or entirely rejected them. And this Practice of the Antients seems to be deduced from hence, because they found that a Suppuration was generally the Consequence of this Method of Cure; which seems to be confirmed by *Gesner*; for when the Plague raged at *Zurich*, he observed that Hellebore forwarded the Suppuration of the pestilential Buboës.

Therefore in the first Days of the inflammatory State, they used to abstain from the stronger Cathartics, that is, 'till the Vessels were relieved, and, either by Venæsection, by Sweating, or by some other Assistance, were delivered from the great Fear of Tension; which otherwise the Stimulus of a Cathartic might occasion. Therefore, where a Cathartic is given, not to expel any prevailing Humour, but to diminish a Plenitude, and discharge the Superfluities of the first Passages, which burthen the Tone of the Solids, and in a manner oppress them, there this Method is always to be used, which proceeds most successfully by Lenitives.

And this shall suffice, concerning the Glands in an inflammatory State. Let us now consider the *Termination* of the Disease: And in the first Place, that *Termination* obtained, by *dissipating*
the

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the Tumors, (which is the only *Termination* to be wished for) at the Time that the Fever is abated ; so that the violent Motion of the Heart is appeased, and the frequent Contractions of the Arteries are restrained : The Fluids more attenuated and apter for Circulation : And the Glands before obstructed, are partly restored to their proper Functions, and then a perfect Ease ensues : The Vessels are preserved entire, and their Fluids are confined within their common Bounds of Circulation ; but the Tone of the Solids remains weak and relaxed from the late Fluxion ; and though the Magnitude of the tumified Glands is diminished, yet there still remains a little Swelling, but without Pain ; and this Ease continues as long as no new Fluxion happens ; for if that returns, the Glands are presently distended again.

Hence it happens, that most Patients say the Tumors encrease, and grow painful, in the Beginning of every Month ; and frequently imagine that they encrease and diminish by the Influence of the Tides, and of the Moon ; whereas about that Time the weak Parts are only loaded with a certain periodical Plenitude, which is afterwards expelled by the Strength of Nature, in the same manner as the Sex is relieved by the Eruption of the Menfes : For at that Season, not only Tumors, but the Breasts also, and the whole
System

System of the Glands are distended from the same Cause.

In this State of Diffipation, when the Glands of the Neck are grown softer, and the internal Glands continue weak and relaxed, by the Removal of the late Fluxion, I prescribe the *Sea Water* with Success, and join to its Assistance the Ashes of submarine Plants, Sal-Ammoniac, Æthiops mineral, Antimony, Cuttle-fish Bone, burnt Pumice-stone, Coral, Coralline, burnt Sponge, and the like Medicines; which I have found useful, either from the Practice of the Antients, or my own Observations. Whatever helps I used to seek from external Applications, I shall freely declare, either when I come to explain the Method of Cure, or in relating the several Cases of the Patients hereafter described. In the mean Time, it is to be observed, that every Cure ought to be terminated by cold bathing in the Sea; which, when it is not ordered before the proper Time, that is, before the Glands are mollified by the internal Use of *Sea Water*, it greatly conduces to a perfect Cure. And lastly, to prevent a Relapse, as the Antients made use of Gall-nuts, and other styptic Medicines, so I use to join the Bark to cold bathing, and chiefly in Diseases of the Ciliary Glands, when the Eyes are subject to frequent Inflammations; but then the Eyes also are to be washed every Morning, with cold *Sea Water*.

I have

I have now gone through that State of the Tumor, *viz.* of *Dissipation*; which is the first Species of the Termination of the Disease, wherein the Glands are restored in Part to their Functions, and a healthy State, without the Rupture of any Vessels. But as every kind of these Tumours do sometimes terminate in a *Scirrhus*, which was the third Species of the Termination of the Disease; for concerning the second, which was from the *Pus*, I have treated of it before, and shall mention it again; it is therefore necessary I should explain what I call a *Scirrhus*:

I call that State of the Tumor a *Scirrhus*, when from any Cause the Parts cohere a long Time, and from thence are so strongly joined and hardened, that they can never be disunited, nor restored to their former healthful State, nor can their obstructed Vessels be opened by any Power of the Arteries; but oftentimes the Hardness increases to that Degree, that the Tumours in some severe Cases are like a Stone, and such I call a perfect *Scirrhus*; and this admits no Cure by *Sea-Water*, or any other Means, but by manual Operation. But the slighter Scirrhusities, if I may be allowed to call them so, without excepting any, are curable, if the glandular Secretions are skilfully treated; for I have cured many by this Method, that so nearly resembled a perfect *Scirrhus*, that there appeared but little
Hopes

Hopes of a Cure, and yet the Patient was perfectly cured.

But sometimes the *Scirrhus* produces a *Cancer*, when the Hardness encreases to that Degree, that the Circulation is stopped through the whole Tumor, and the Vessels are somewhere burst; then they are a little distended by a livid Ichor that discolours the Skin, from whence the Physician or Surgeon has Reason to foretel a Rupture of the Tumor. These are like Cancers, of a livid Colour, and like a Kind of *Echymosis*, or rather, as I think, like those lymphatic livid Vesicles, or little Blisters, that use to rise in the Parts of the Body, at the Beginning of a *Sphacelus*.

But when after the bursting of the Ichor remains a long while out of the Laws of Circulation, and has acquired great Acrimony, which soon happens in the extravasated Fluids of all Animals, then the Contagion of this Acrimony is communicated from one Gland to another, and by Degrees the whole System of the Glands is seized with a Cancer; and this Acrimony is so virulent, that some Writers think it partakes of the Nature of Arsenic, and this is the Cause that it produces such large Escars in one Night's Time. Indeed, in this irritated State, the Use of *Sea-Water* seems to cause too much Irritation, but I have not yet made Experiments enough to determine this perfectly.

And

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And thus I have considered the *four* different States of the morbid Glands; and from what has been said, it will appear, that there is little to be expected from *Sea-Water* in a true and perfect *Scirrhus*, nor in any Tumors contained in a Bag, or in an Atheroma, Steatoma, or Meliceris, or where the Matter extravasated is contained in the Middle of the Gland, like a Kernel in its Shell, before the Use of *Sea-Water* is begun, which nevertheless very seldom happens after the Cure is begun by this Method: Nor in a true Cancer, nor in Ulcers with a Caries, where an Exfoliation is required. And yet I have seen some of these Cases cured, though the Glands were dis-tempered at the same Time.

This is the Course of a Cure attempted without Success; let us now take a View of the Successful Cures, and see what Assistance we may expect from *Sea-Water*; the Diseases therefore that are curable by this Method are as follow:

1. All recent Obstructions of the Glands of the Intestines and Mesentery; for by this Method Tumors are dispersed, and the bastard Iliac Passion is often prevented.

2. All recent Obstructions of the Glands of the Lungs, and other Bowels, which often cause a Consumption; for by this Method a certain continual and daily Secretion is performed by the
intestinal

intestinal Glands, and thus the Fluxion is drawn off from the Lungs, whereby the Cough ceases, before an Abscess is formed, and the impending Danger of a Consumption is removed; which, as *Sydenham* rightly observes, often proceeds from the Violence of frequent coughing; for this weakens the Lungs, and excites Tumors: They grow inflamed, maturate and erode the lax and tender Parts, so that in a short Time the Disease is got beyond the Power of Medicine.

3. Recent Tumours in the Glands of the Neck, or in other Parts of the Body.

4. Recent Tumours of the Joints, if they are not suppurated, and are neither turned to a *Scirrhus* nor Cancer, and do not proceed from a Caries of the Bones.

5. Recent Fluxions on the Glands of the Eyelids, from whence proceed Lippitudes.

6. All Foulnesses of the Skin, from an Erysipelas to a Leprosy.

7. Also Distempers in the Glands of the Nostrils, with a Swelling of the upper Lip: And these are esteemed very difficult Cases; but even these are conquered by this Method.

8. Obstructions of the Kidneys, where there is no Inflammation, nor any Stones too big to pass through the urinary Passages.

9. Re-

9. Recent Obstructions of the Liver; for by Sea Water the Body is kept open, and those Medicines that are given in the Jaundice receive hereby more Power to exert their Virtues.

Now if I were more minutely to explain the Nature of recent Fluxions upon the intestinal Glands, it would be proper to describe those Glands; but this is unnecessary, and therefore I shall only add this Remark, that the whole alimentary Tube is in a manner overspread with Glands, and is therefore liable to the same Disorders as the Glands of the Lungs; but with this Difference, that in the Tumors of one the *Sea Water* cannot be applied to the Part affected, as it may be in the other, and therefore the Benefit appears the sooner.

Therefore, where Fluxions have a long Time oppressed the Glands of the Intestines, they become hard and scirrhus: Then the *Rectum* is most grievously obstructed with Tumors; the Stools are accompanied with a vehement Pain, and the Excretions often contain only a Matter like Ichor, which injures the Neck of the Bladder by the nearness of the Part, and at the same Time excites a Strangury, and a most painful Tenesmus. In these most severe Cases, if the Parts are not inflamed, or if they are only injured by the Compression, or if they only swell, then the *Sea Water* chiefly produces two good Effects: One is, that hereby the Belly is most safely preserved

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from

from the Danger of Constipation; the other, that it is a better Discutient than all other Medicines. And indeed, the Antients used the *Sea Water* in these Diseases; for *Pliny* says, *the Physicians think Sea Water alone more effectual in dispersing Tumors*. And in the same Author we find this Remark, *Some Physicians prescribe the Sea Water in a Quartan Ague, and in a Tenesmus*, I. 36. c. 6.

But when these Distempers are neglected, or unskilfully treated, they sometimes turn into Cancers; where, if there is too much Acrimony, this Method of Cure is ineffectual. Sometimes they turn into the bastard Iliac Passion; that is, when Tumours are seated in Part of the Intestines. I shall here insert a Case of this Nature, which, while I am writing, occurs to my Mind.

There came to me a Gentleman of a good Family, about forty Years old; he had a Tumor of the Kind before described, which adhered to the intestinal Tube, below the Region of the Spleen. When the Patient was entirely free from vomiting, I could feel the Tumor with my Hands, which was round, and as big as a large Tennis-ball. He had no Fever. After a copious Evacuation of the Excrements, by vomiting, the Patient remained easy for some Days, 'till the Stomach and Intestines were again stuffed with Faeces, and then they were again ejected by the Mouth. All Means were tried in vain, for nothing

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thing would pass by Stool; but the Iliac Symptoms were renewed at stated Times, that is, between every seventh and tenth Day. He languished in this Distress several Months; first at *London*, under the Care of Dr. *Pellet*, my very learned Friend, for whose Memory I shall always have the greatest Veneration; then at *Bath*, under the Care of Dr. *Bave*. At last, he returned to me, in the same Condition as at his Departure: And because he was surprizing'y wasted, I had the fairest Opportunity of inspecting the Tumor; but there was no Hope of Relief; he died soon after.

But if I had known at that Time, as well as I do now, the Use of *Sea Water*, perhaps there might have been some Hope in this Case; for I am not acquainted with any Medicine that is so powerful a Discutient as *Sea Water* taken inwardly, or that seems so well adapted to the Cure of the forementioned Disease: But in this Case it ought to be given alone, to keep the Body open, and this should be done before the Obstruction was quite confirmed in the Intestines. There is also this Benefit attending this Method, that *Sea Water* promotes Digestion and Chylification.

And this is well known to those who cure Cattle and Sheep; for when a Beast ceases to chew the Cud, and it appears from thence, the Digestion is injured, and there is Danger of lo-

ing the Animal ; they presently restore Digestion, by repeated Draughts of salt Water, or by large Boluses of Sea-Salt mixed with Honey. This Course is continued 'till the Passage of the Intestines is opened.

When I found these Things were so, it was plain to me, that the Use of *Sea Water* would be very beneficial to Sailors in bilious Colics, both to prevent the Invasion of the Disease, and its Return after the Cure. This last is to be effected by a *Semicupium*, or half Bath, and purging Salts, after the Inflammation has been removed by Bleeding. And I am informed by my Friends, that this Method is successfully practised. Many of these Distempers are produced in the following Manner: many Seamen, especially fresh ones, not used to the Sea, are commonly seized with a Nausea, and Vomiting, which commonly attack Passengers, when the Ship first gets under sail, and this affects some longer than others. While he continues in this Condition the Belly is bound, and the Sailor seldom recovers 'till it is opened. At the same Time very little Food is taken, and recourse is had to spirituous Liquors for Assistance. Then, if they sail to a warmer Climate, there is a more copious Evacuation by the Skin, and therefore less by the Glands of the Intestines. A great Quantity of Bile is thrown up by vomiting, the Fæces become whitish and dry, as in the Jaundice, the
Bowels

Bowels are obstructed, and the Foundation is laid of a future Inflammation ; for the Fibres, in these Circumstances, are dry, and deprived of that soapy Bile, which ought to give an easy and slippery Passage to the Fæces. This, among many others, is one Cause of the inflammatory Colics that happen to Sailors.

Being willing to get a true Knowledge of this Matter, I enquired of several Masters and Surgeons of Ships, and by their Descriptions I found this Disease had the Symptoms of a Bilious Colic ; and understood that the Cure was commonly attempted by Aloetics, Scammony with Calomel, which, tho' joined to an Opiate, the Stomach of the Patient would often throw up ; then followed a black Vomiting, and there being no Evacuation downwards, the Intestines mortified, and Death soon ensued ; therefore, I thought it would be a useful Undertaking, and acceptable to Sailors, who seem by Nature designed for the Defence of this Island, if I could discover a safer Method of Cure in these Cases. For this Purpose, when the Colic proceeds from the Body's being costive, and the Patient has no Fever, then a Pint at least of *Sea Water* is to be given every Morning. If this is taken in the first Stage of the Distemper it will preserve the Patient from any great Danger. But if it is neglected in the Beginning of the Disease, and an Inflammation appears, with a Fever, Vomiting,

and difficult Stools, or none at all, then there is Danger of the Iliac Passion, which is attended with a black Vomiting, and the Fæces are thrown up at the Mouth, the Pulse is quick, but weak, followed with cold Sweats, and the Patient dies of a *Sphacelus*, or Mortification.

Sometimes indeed, after Shivering, Pus appears in some Part, which prevents immediate Death: But for the most Part, a purulent Tenesmus afflicts the unhappy Sufferer.

I have had an Opportunity of conversing with many Persons, Practitioners at Sea, as well as others, from whose Accounts I have described this Disease. And that the common Method, which is, so dangerous, might be laid aside, I persuaded Mr. *Leith*, a Surgeon in the Royal Navy, to take a new Course, which was, as soon as the Symptoms of Inflammation appeared, to bleed freely, and repeat it as Circumstances required, if neither the Pain nor the Fever abated: That no purging Medicine should be given, not even *Sea Water*, 'till a sufficient Revulsion was made by Bleeding, and emollient Clysters. Instead of Aloetics and Scammony with Calomel, I desired him to give the following Bolus.

*R Of Tartar Vitriolate two Scruples, or a Dram,
Salt of Tartar eight Grains, or half a Scruple,
chemical Oil of Nutmegs one Drop, Lenitive
Electuary enough to make it into a Bolus.*

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To be taken every four Hours 'till a free Evacuation by Stool is obtained.

He used these Means with great Success in these Distempers, for at his Return he thanked me for this Prescription; and though during his Voyage the Sailors were attacked with Colics more frequently than usual, from their Intemperance and a Plenty of bad Wine, yet almost all recovered by this Method. After proper Bleeding, two or three Doses in the most obstinate Cases, generally open'd the Body, and then the Danger was over. When the Inflammation was removed, the Patient was easily preserved from the Danger of a new Attack by taking *Sea Water* every Day, or every other Day.

I have seen many violent Colics cured by this Method, where, if the Case required it, I used to order a Half-Bath before Purging; for though I have sometimes seen Dr. *Fuller's* Colic Pills and similar Medicines, given with Success, yet while the Inflammation continues they are attended with Danger. But that which should chiefly deter us from the common Method, is; that if those Particles, whether rosinous or gummous, do not open the Body, they must enter into the Blood, and thereby encrease both the Fever and the Inflammation. On the contrary, if the saline Medicines are not evacuated, but are re-

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received into the Blood, they are cooling and restrain Inflammations and Abscesses. And further, bitter and rosinous Pills are often rejected by the Stomach, though guarded with Opium; but a saline Bolus seldom disagrees with the Stomach, or rather has the Effect of Salt of Wormwood and Juice of Lemons, and take off the Inclination to vomit. Therefore I am of Opinion that Aloetics, Scammony and rosinous Substances with Calomel are to be entirely rejected in the inflammatory State of the Colic, and for the great Benefit of Seamen the other Method is to be followed; for it is plain they never want *Sea-Water*, and unless my Judgment and Observations deceive me, more are cured by that, of inflammatory Colics, than by rosinous Purges, which strongly adhere to the Intestines, and also encrease the Distemper.

I believe what I have proposed will be sufficient to confirm the cooling Method for the future, which, I think, many Physicians do already approve. It is not new, and deserves to be considered with the utmost Attention; and because saline Purges were used so successfully in these Cases, therefore *Angelus Sala* bestow'd such high Encomiums on *crude Tartar*. The Dose is from six Drams to an Ounce, in Chicken-Broth. *Sal Gem* has likewise met with Approbation; because it
has

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has been found by Experience to lubricate the Intestines, promote Secretion from their Glands; as also to soften and resolve the Fœces. There are Instances of this Kind to be met with in *Forestus*, Lib. 21. Therefore, against Costiveness, a Pint of *Sea Water* is to be drank fasting every Morning, as often as the Case requires; which, though perhaps it is not entirely of the Nature of *Sal Gem*, yet it is contained under the same Class.

And as the Glands of the Intestines seem to be formed by Nature to draw off and emit whatever is unprofitable to the Body, I believe most glandular Diseases proceed from Disorders of the Glands; that is, neither the Glands themselves, nor the Mouths of their Ducts for want of cleansing, will allow a free Passage for whatever may be thrown upon them. I am certain also, there are many Diseases of the Skin which owe their Rise to the Disorders of the Alimentary Tube. And likewise that when other Secretions are deficient, the Glands of the Alimentary Tube are drawn into Consent, and are affected at the same Time. And hence, very probably, proceed all Obstructions of the Mesentery and other internal Glands. And this commonly happens to Women when the menstrual Purgations are suppress'd for many Years, and the Glands of various Parts are diseased,

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diseased, they labour under a continual Diarrhœa, though without any violent Symptoms, which though it continues so long, seldom exites a *Tenesmus* or any Signs of Acrimony ; for in this Case those Humours pass off by the Glands of the Intestines, which in a healthy State should be carried off by other Evacuations.

And how greatly the Intestines are adapted by Nature to relieve the Defects of any Evacuation will appear plain by the Case of a Boy mentioned in the Philosophical Transactions, who lived to be seventeen Years old without any Evacuation by Urine, and yet was brisk, healthy and strong ; but he had a continued Diarrhœa, yet without any troublesome Symptom. Therefore the Defect of the Kidneys, as it appeared to Dr. *Richardson*, was supplied by the Assistance of the Intestinal Glands. See *Philosoph. Transact.* Vol. xxviii, *Anno* 1713. I also knew a Woman who was asthmatic, and laboured under Obstructions of the Glands from her Cradle. She never breathed so well as when the alimentary Tube was kept open, and its Glands stimulated to encrease their Secretions by *Sea Water*.

Hitherto I have only mentioned the various Distempers of the internal Glands, in treating of which, perhaps, I might have been
more

more particular, and extended the Work to a greater Length without being tedious ; but I have neither Time nor Inclination to add any Thing that is not requisite to explain the general Method of Cure. In my Opinion, nothing does more Injury to the Study and Improvement of the Sciences than a too religious (or if I may be allowed the Expression) a servile Imitation of the Antients. I mean when a Person will upon no Consideration forsake the beaten Path of the Antients. Neither do I think their Authority is to be entirely rejected, right or wrong ; for from their Writings, as from a Spring, we draw the most useful Assurances in the Study of the Sciences.

Therefore when I first resolved to write, I thought myself obliged to observe two Things ; *one*, that I should not boast of these Things as if they were entirely new, and yet I might claim the Credit of having brought a Medicine of the antient Physicians again into Practice that had been too little regarded, and of having more accurately considered its Qualities ; *the other*, that I should not servilely confine myself to their narrow Observations, but should dare to deviate from their Steps where I found just Cause for it. I shall therefore add a few Observations, which I found scattered in the Writings of the Antients,

tients, which may serve to illustrate this Subject, by which it will appear what the Antients performed with this Remedy, and this indeed seems to be but very little.

And first *Celsus* observes, in the Chapter wherein he treats of Purging the Body, *Lib. 2. Cap. 12.* that two Sorts of Salt Water were used by the Antients to keep the Body open, one supplied by Nature, the other by Art. *The Sea Water* (says he) *is acrid, or common Water salted, but both are mended by Decoction.* And afterwards, *The more acrid it is the more it discharges.* And *Hippocrates* gave *Sea Water* for a Clyster: And *Themison* also, in a Dysentery, takes Notice, *that the sharpest Brine is to be used,* *Cel. L. 4. Cap. 15.* * *Minium ground with a Pint of Salt is esteemed powerful against a Cancer of the Intestines.* At least it is given mingled with Water, *ibid.*

Though the Antients gave *Sea Water* internally in many Diseases, yet they were timorous, and saw but little of its Use; for they used to keep it 'till the Venom of it (as they called it) settled, and often substituted in its Place a Mixture they called *Thalassomeli*. The *Thalassomeli* of *Dioscorides* is made in this Manner; Take equal Parts of *Sea Water*, Rain-Water and Honey, mix and scum them,

* What the Minium of the Ancients was is uncertain.

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and let it be kept in a Glass-Vessel, well stopp'd, all the Dog Days. The Antients used also to mingle *Sea Water* with their Wines, which the Physicians prescribed to loosen the Belly. *Vinum Tethalassomenon* is said by *Dioscorides* to be Purgative, and was made (according to *Pliny*) in this Manner : *The Grapes are gathered before they are quite ripe, and dried in the strongest Heat of the Sun, turned three Times a Day for three Days, and squeezed on the fourth Day; then the Liquor is to stand for some Time in the Sun in Vessels, with which they mix a large Quantity of Sea-Water.* See *Pliny's Nat. Hist.* L. 14. Cap. 8. And *Celsus* writes, that this used to be given in the Jaundice, L. 3. Cap. 24. *Drink salt Greek Wine to keep the Body soluble.* And in the same Chapter, he says, that *Aclepiades* made them drink Salt Water for two Days for a Purgation. Also *Quintus Serenus Samonicus*, in the Chapter entitled *Ventri molliendo*, writes thus :

*Sæpe Thalassameli junctum cumulavimus
imbri :*

*Hæc purgant, parili fuerint si pondere
mista.*

The Antients also used *Sea Water* to expel bilious Humours, as the same *Samonicus* testifies

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testifies in the Chapter entitled *Felli, Vomitus
vel Pthisi arcendis* :

*Profunt & Pelagi Latices, quos pondere
justo*

Dulcibus associas Lymphis, melliq; liquenti.

And the same Author, on the Gout, writes,

*Si vero Articulos tabes inimica per omnes
Hæserit, ex ficu betas ac melle ligabis;
Vel Pelagi latices, simul & Baccheia Dona
Sumere curabis : nimio sed parcite Vino.*

Moreover the Ancients made Use of *Sea-Water* in the Palsy to stimulate the relaxed Fibres. *It is also extremely necessary to foment the Limbs with Sea-Water warmed, or else with common Water and Salt, Celsus L. 3. Cap. 27.* In the same Disease they purged the Body with *Greek Wine* salted. *But if the Disease is of long standing, Greek Wine salted may be given as a Purge every fourth or fifth Day, ibid.*

And here I shall insert a short Catalogue of the Purging Salts used by the Antients, all which they seem to have disposed in Classes according to the Degrees of their strength.

I. Salt,

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1. Salt. 2. Sal Gem. 3. Sal Nitri. 4. Indian Salt. 5. Flos Salis.*

Then the liquid Saline Purgatives are mentioned.

1. Sea Water. 2. Thalassomeli. 3. Vinum Tethalassomenon, of which Medicines the two last were thought by some to purge more gently, although *Dioscorides* ranks them among the stronger Purgatives.

I find many celebrated Authors carried away with the Stream of the Opinion of the Antients, for even *Antonius Musa Brasavolus*, who had observed from *Pliny*, that the Sea Water was injurious to the Stomach, relates a Kind of an old Woman's Tale hereof, that when he was at *Venice* with *Alphonfus III.* Duke of *Ferrara*, he sailed out of the Port, but a Storm arising, the Waves broke into the Vessel. But I shall add his own Words : *The Water dashed in my Face, for I could find no Place to shun it ; so that I drank some of it against my Will, which threw me into a Flux. I expected every Moment to be drowned, for I thought the Vessel must infallibly sink ; so I began to think how to escape such an imminent Danger ; and I could find no other Means of Safety, if the Ship sunk, than to throw myself*

* This is unknown.

upon the Back of the most illustrious Duke, and there cling fast; for I knew he could swim like a Fish: Therefore I resolved that either he should deliver me from the Danger of the Water; or that we should be drowned together, as he was the Occasion of my Death. But here I cannot help observing, that the most illustrious Duke was highly obliged to his Physician for having meditated a Design that was so full of Love and Respect.

Afterwards, which is scarce probable, he relates that he continued in a Flux eight Days from the forementioned Cause. Therefore, (says he,) Sea Water) purges and offends the Stomach. See Ant. Musa Brasavol. Page 27. De Pargantibus. What would this great Doctor have said if he had lived to see this Method of mine, where a Patient has taken Sea Water daily for a whole Year, without being heated thereby?

*I have also taken the following Passage from Fabricius Hildanus, Obs. 34. Cent. 2. to Sennert. But what is your Opinion of the Use of Brine in the Plague? I knew a certain Lawyer at Nuys on the Rhine, who related, in my hearing, that he had often given Brine to his Friends and domestics in the Plague with great Success. * * * * * As soon as any one was seized with the Plague, he gave them a Draught of Brine, and ordered them to sweat in Bed,*
and

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and abstain from any other Drink for some Hours. This operated in some by Sweat, in others by Vomit, in the rest either by Stool or Vomit, or both, and caused such a copious evacuation, that the major part of those who took it were restored to Health, therefore though I would not venture on this Medicine before I had your Opinion of it; yet I think it is not to be entirely rejected; for on Account of the Salt, there is no doubt that it greatly resists the Putrefaction of the Humours. Besides it opens Obstructions of the Bowels, and carries off noxious Humours either by Sweat, by Urine, or by Stool. But these Testimonies are sufficient.

Having thus premised the Effects of *Sea Water* in the Diseases of the internal Glands, let us now see what Power it has upon the external Glands; in which as they are more open to the Eye of the Physician, so the Declension of the Disease and the Effect of the Medicine appears the sooner; for it is worth observing, that the ciliary Glands, when red and excoriated, with swelled Eyelids, soon grow pale and dry with the Use of *Sea Water*, and tend towards a sound State. The concatenated Glands of the Neck may be also seen to decrease daily, by the same Method, and return to their natural Shape when they are not suppurated, nor turn'd to a *Scirrhus*. By which Means the elegant Ornament of the Neck

Neck is restored, which the great Author of all Things seems to have formed with such Beauty and Dignity, that he might place the Head, being the last and most perfect Work, upon it as upon a most beautiful Column.

From the foregoing Consideration of the morbid Glands, I think the Reader is prepared and instructed to receive and comprehend the following Method of Cure that is levelled against tumified Glands by Helps timely interposed: Therefore I shall proceed to that Part of my Design in which I proposed to explain the Similitude and Agreement of this Method with the Laws of Nature, that it may appear from hence, that Nature generally employs the same Assistances when she alone opposes any Disease with her own Powers. Then we must review the Medicines of the Antients and their Method of curing morbid Glands; from whence it will appear how rational and convenient it is to join their Medicines with *Sea Water*, that by their united Assistance we may disperse internal Obstructions which are always attended with the utmost Danger.

And for this Reason, when I am sent for to cure an obstructed Gland, I always endeavoured to penetrate into the remote and hidden

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den internal Causes within ; for if the Obstructions of the Glands of the Mesentery and Lungs cannot be conquered, what Benefit can there be in dispersing external Tumors ? Therefore, I seldom apply any outward Medicines before the Glands are mollified and altered by internal Remedies. But as it often happens in these Cases, the Business is beyond the Reach of Physic, and for the Reasons aforesaid, requires manual Operation ; then, that is, in all external Tumors I leave them to the Surgeon whose proper Work they are, who, I hope will discover more accurately those Things which I have slightly touched, as being inconsistent with my little Leisure and the Design of this Work ; for my Intention is only to explain the Cure of morbid Glands in that State where the Vessels remain whole and free from Ruptures : Also where the Fluids, though something accelerated, do still obey the laws of Circulation, and so the Disorder is a proper Subject of the Medical Art.

But there is no other Medicine, that I could ever discover, which may be safely continued so long Time, nor that cleanses and corroborates the obstructed Tubes so well as *Sea Water* ; for it has a certain soapy Quality as powerful as the saline, which cleanses and disperses those viscid Humours which stop and obstruct

obstruct the Mouths of the Lacteal Vessels, and successfully stimulates their Sphincters, whence they perform their proper Offices, and promote Chylification as well as in a healthy State. Thus, whatever conduces to the Nourishment of the Body is separated, and circulates with the Blood, and nothing is thus separated but what has been well prepared by the alimentary Tube. But when an Obstruction arises in the Lacteal Vessels, and hence the Chyle is not well secreted, or is sucked out by the Intestines, then follows a loss of Appetite, and the Chyle itself, as in the *Cæliac Affection*, passes off by the *Anus*, and this produces an Atrophy, or a general Wasting of the whole Body.

That these mesenterical Tumors proceed from the Obstructions of these Vessels, and the Circulation thereby prevented, will appear from that Experiment of our Countryman *Wharton*. *Wherefore, (says he) the Lacteal Tumors are exceeding small, and perhaps not yet discovered by any Person; for in dissecting several live Animals, having made a Ligature in the Lacteal Veins, between their common Receptacle and the Glands of the Mesentery, and the Passage of the Chyle being stopt, I have observed those Glands to swell a little that belonged to the Veins that were tied. See Wharton de Glandulis, p. 47.*

I could

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I could cite many such Cases from various Authors, but I chuse to omit them for Brevity sake, therefore shall only add, that when these Cases are attended with a Hectic Fever, there is a *Pus* subsisting every where; but if it is otherwise, and the Disorder seems to be mild, gives Hopes of a perfect Cure. Nevertheless, as in these better Circumstances the more lax Parts of the Body are affected, therefore there is Reason to be apprehensive of Danger; for unless the Patient has Resolution to continue this Method a long Time, and will finish the Cure by cold bathing in the Sea, it is very probable that upon a Return of a new Plenitude of Humours the Disorder may be renewed, for the Glands, being weakened by the former Disease, have little Strength to resist a new Fluxion. I must acknowledge there is required great Constancy and Resolution to support the Tedioufness of the Cure; but I think it is better to bear this than to suffer a languishing Death by a Consumption, or a Rottenness of the Bones, which is a common and well known Distemper.

I suppose, now, it is plain that there are chiefly two Causes of morbid Glands; one is a Fluxion of redundant Humours upon the Glands; the other is a Weakness of the Parts affected, whereby they cannot resist the Fluxion;

Fluxion ; and where neither of these Causes exists, no notable Disorder of this kind can arise ; for if there is no Redundance there can be no Oppression, and if there is no Weakness or Laxity, it follows that the elastic Force of the Vessels will resist the Disease ; but if both these Causes are absent no Tumour will arise.

But I must proceed to explain, as I proposed, by what Means this Alteration of the Habit is to be effected, and how chiefly some Secretions may be directed by the Skill of the Physician, and also which of them seem principally to be formed by Nature to give assistance to the weak Parts, and to lighten that Burden with which they are oppressed ; and lastly, Experience shews that in those Cases which properly belong to the Medical Art, the Physician seldom wants Success but where the Patient wants Constancy.

But in considering the Changes of the Animal Secretions, I shall only subjoin those Laws that are apparent and unchangeable ; therefore, I reject the obscure Terms of Coagulations, Concretions, and hereditary Disorders ; and think I can ascribe those Distempers to more certain and less intricate Principles ; for whatever Cause it may be that throws a Fluxion upon those lax Parts, so that the Humour flows too fast to obtain a
Passage,

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Passage, must necessarily occasion Tumors there. I have seen Tumors in the Glands of the Neck, that were occasioned only by the Irritation of Blisters behind the Ears. And *Wiseman* mentions the Case of a Person who lay a Summer's Night upon a Form, but his Head hanging down, while he slept, one Side of his Neck lay upon the Edge of the Form. When he awoke he found several Swellings in the Glands of his Neck, some of which were as big as Walnuts.* The same Author observed, that the same happened to Children when the Tonsils were compressed by being bound too tight. A Pain in the Breast brings a Fluxion on the axillary Glands, and Diseases of the Legs and Thighs cause Swellings in the inguinal Glands. Numberless Examples of this Nature might be produced.

* *This Passage in Wiseman's own Words is as follows, Page 392.*

I shall give you one remarkable Instance of a Cook's Servant in the *Old Baily*, who sleeping one Summer's Night on a Form, his Head slipping off, the one Side of his Neck pressed upon the End of it; when he wakened his Neck was full of *Strumæ* on both Sides, some as big as Walnuts, others less; they were of different Figures, and distinct from one another. The *strumæ* continued, and after a few Days apostemated and matter'd, and became virulent Ulcers; he died tabid within half a Year.

A *freight Stay*, as some Women and Children wear them, hath too often had the same Effect. Pain in the Breast makes them under the Arms; and in ill Habits of Body, a sore Leg hath often caused as much in the Groins,

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Therefore these evident Causes direct us in the best Way, and point out a Method of Cure; but if the Causes mentioned by other Authors should please some Persons better, such as cancerous, scrophulous and scorbutic Humours, I shall not enter into a Debate, nor add any thing more to make them change their Opinion; but this I will affirm, that there is no better Method of Cure in these Distempers than that performed by *Sea Water*.

S E C T. II.

HAVING thus revived whatever belongs to the general History of the morbid Glands, I think it will plainly appear to every Physician, and even to any one unskilled in Anatomy, that he has the Care of a Body fitted with Organs, the Health of which depends upon almost innumerable Secretions regularly performed.

For as the Author of human Nature foresaw that some of these would be obstructed by various Accidents, and less fit for the Laws of Circulation, he formed the Body with plenty of Secretions for the Purpose of mutual Assistance; that when one of these are impeded the Body might be relieved by the Help of
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the others. And indeed Nature cures many Diseases by her own Power after this manner, and for this Reason she is properly stiled the *Healer of Diseases*.

For where this or that Secretion is impeded she commands another to perform its Office more copiously, although, perhaps, not so conveniently. And unless Nature performed this by her own Strength, a little too much Meat or Drink, or the Changes of the Air, or the Seasons would destroy this most beautiful Structure, Man.

Upon these Considerations I always thought it a Matter of the highest Consequence for a Physician to imitate, as near as may be, the Process of Nature; and where any Secretion is obstructed or diminished, to take care to facilitate and encrease another.

And indeed Nature takes this Method for expelling Diseases, which otherwise use to arise from obstructed Glands; and this is effected upon going into a colder Air, the Perspiration by the Pores of the Skin is suppressed, when a sudden Fluxion distils from the Eyes and Nostrils, and the Glands of the Mouth and Throat are affected, so as to produce the Distemper which Physicians call a *Catarrh*.

But all these are the Endeavours of Nature to throw off the Redundances that proceed

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from

from the obstructed Perspiration: And indeed whoever observes this Rule of Nature may check the Violence of the Distemper. For tho' the larger Emunctories of the axillary and inguinal Glands, &c. afford great Assistance, yet they are not so subservient to the Will of the Physician as the Evacuation of the alimentary Tube, which seems designed by Nature for the ready Discharge of any Redundances. And where the Redundance of superfluous Humours causes any Complaint, this affords the quickest and easiest Discharge: Nor is it, perhaps, necessary that the Fluids should undergo such a fine Trituration as when they are carried off by Perspiration.

He that knows how to make a right Use of these Helps, will direct the glandular Secretions with the greatest Judgment; and if he does not make a perfect Cure, he must certainly procure some Relief; because he can turn the Current of the Disease into another Channel, perhaps, design'd for that very Purpose. Nor is it a small matter if a Physician can change a dangerous Distemper into one less dangerous; so that the Patient, who would otherwise die of some acute Disease, may still carry on those morbidic Seeds to a more advanced Age, which, perhaps are sown purposely

posely in us, as fit for the Dissolution of the Body.

I wish this divine Method of Healing, which consists in the Mutation of Diseases, was better known to us all; for I believe it would be much better for the Health of the Patient and the Credit of the Physician.

Another remarkable Instance of this Method is found in the Cure of Dropsies by the Help of the absorbing Vessels. When, for a Season the Disease is thrown upon the Kidneys, and the Secretion being turn'd off from the Glands of the Peritonæum, the included Water is absorbed and drained off by the Kidneys; which is often performed by the Help of soapy Medicines, and the Use of lixivious Salts; and I still remember that the celebrated Professor, Dr: *Boerhaave* told me, he had cured many Dropsies by this Method. But I shall subjoin a Case which I think the most remarkable.

I was sent for to a Countryman's Wife, and asked if it was proper to draw off the Water by the Paracentesis, or Tapping. The Surgeon thought there was a vast Quantity of Water in the Abdomen; but because the Woman was weak, and at that Time unfit to bear the Operation, we first tried the Assistance of Medicines; and because this Dropsy was caused by

obstructed Kidneys, I gave the following Medicines.

℞ Of prepared Woodlice two Drams, of Venice Soap half an Ounce, of Gum Ammoniac two Drams, Balsam of Sulphur with Oil of Turpentine enough to make ten Pills of every Dram.

Of which six or eight are to be taken every Day, drinking after them a Draught of the following Wine.

℞ Salt of Wormwood one Dram, Loaf-sugar three Drams, Chemical Oil of Nutmegs six Drops, White-wine a Pint; mix them and make a medicated Wine.

After taking these Medicines she voided sixteen Stones of an irregular Shape of about the Size of common Marbles that Boys play with.

When I was sent for again after she had taken these Medicines, the Woman was taken with such a great and continual Flux of Urine, that the Sphincter of the Bladder was overpowered, and the Water flowed out involuntarily, and went through the Bed and the Floor of the Chamber. The Patient was then restored by proper Cordials, and bound with proper Bandages, and thus the Dropsy almost in a Moment of Time was absorbed and drained off by the Kidneys.

The Woman lived fifteen Years after, without any Relapse. This proves what I mentioned

tioned before, that the Secrations may sometimes be governed by the Will of the Physician, and that the Glands will readily secrete their Fluids when they are urged by a Stimulus either of Pain or Vellication; which will appear by the following Example. I had a Sheep which tho' she had no Milk, took a Lamb which had lost its Dam; upon the Lamb's pulling the Teat it drew such a Quantity of Milk, that the Lamb grew fat and strong. The Shepherd positively affirming this to be true, I ordered him to bring me the Sheep; (for he mentioned this about Shearing-time) the Dug was very full of Milk, though it was nine Months since she had suckled a Lamb before. And several other Shepherds assured me the thing was true and not uncommon.

The following Story from *Regner. de Graaf* is to the same Purpose. *Mr. Vandeveld, in whose House I lodged at Delft, had not long since a Bitch that was very fat, out of whose Dugs a Cat sucked so much Milk for several Years that it was almost its whole Nourishment, and that for many Years, tho' she never had any Puppies, nor was ever pregnant. For the whole Time she was proud they watched her carefully; however, at last she happened to grow big with Pup, and from that Time the Cat would suck no more. See De Graaf de Vir. Organ. p. 126.*

I think it needless to illustrate this any farther; and upon this Foundation I attempt to cure all recent Tumors and Fluxions upon the tracheal and pulmonary Glands; from whence, very often, *Hippocrates* affirms, Consumptions arise: For, (says he) *Others are seized with a great Fluxion upon the Throat, from whence there commonly follows a Consumption; for the Lungs are stuffed with Phlegm, which becomes a Pus that corrodes the Lungs, and the Patients do not easily recover.* See *Hippocrat. de Glandul. Sect. 10.*

These recent Fluxions are successfully cured by this Method, and it seldom fails but in Cases that are grown desperate by long Continuance.

By the same Method also I treat recent Tumors of the Glands in the Joints and other Parts, and have seldom found the intestinal Glands deceive the Hopes of the Physician or the Patient. But I do not expect every thing from these Means; for I have seen some cuticular Eruptions so obstinate as to elude all the Force of this Method: But I have conquered many of these, (rejecting first all Medicines of a stimulating Quality, and confining the Patient to Water and a Milk Diet) by those very Medicines which before had no Effect. But when the Vessels are contracted by stimulating Medicines, which allow no Way

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to carry off the Disease, there the Patient is most conveniently prepared for this Method by warm Baths, drinking Water, and the Use of lenient Alteratives, with a Milk Diet.

The larger Glands of the Neck, of the Axillæ, and the like, are more easily evacuated than the rest; but the Glands of the Skin are more troublesome, and require a longer Time before they can be cleansed; but those Diseases that are any Species of the Herpes are the most obstinate.

Sometimes I have seen the Patient affected with a *Nausea*, from the topical Remedies used in a Relapse; but seldom where purging with *Sea Water* was joined to the other Means; for here this Disorder is prevented by opening the intestinal Glands. And when the Current of the Disease has been turned this way for a little while, the Evacuation becomes as it were natural, and that Secretion by the Glands of the Skin is not found necessary to preserve the Health of the Patient: But if a Relapse happens, we must have Recourse to the same Helps which seem appointed to carry off the Disease; for unless the Passages are obstructed, they are, doubtless, designed for that Purpose. But how well the Glands of the Intestines are fitted to receive the Humours transferred from the Skin may be easily perceived by the ceasing of the

Colic upon cutaneous Eruptions; and if these Eruptions are repelled, the Colic (and often with a Diarrhœa) returns; for here the Glands of the Intestines are affected instead of those of the Skin, and the morbid Matter is thrown upon the Bowels, which else would break out in Pustules, or pass off by Perspiration. Something like this is found in *Hippocrates*. But if the Fluxion retreats, and the Plegm shall pass by the Palate and fall into the Belly, such have a Flux of the Belly, but no Sickness. See *de Gland*. Sect. 9.

Therefore this Way of Cure, which seems to follow the Example of Nature, is commonly successful if skilfully used. Moreover I have observed, that sometimes when the Glands have been swelled a long Time, and oppressed with Humours, and when their Texture hath been weakened by frequent Fluxions, that it is necessary not only to procure a more plentiful Evacuation by the intestinal Glands, but that there should be also a greater Revulsion than can be safely made by the Help of Purgatives. And here I found Emetics very useful; and when the Glands of the Womb are weaker than the rest, purging with *Sea-Water*, with repeated Emetics, and bathing in the *Sea-Water*, often succeeded to my Wish.

But as I think Turpeth Mineral, and other Mineral

Mineral Emetics, too strong for the tender Constitution of these Patients; I make use of Ipecacuanha or Squills; and how useful Squills are as an Aperient may be easily perceived by their excellent Use in Dropsies, and in Disorders of the Breast; and in Diseases of the Glands I esteem them to be the best Emetic among Vegetables; for they make a safe and effectual Revulsion; they open the Kidneys, and augment all the Secretions; and the Patient runs no Risque of a colliquative Diarrhœa, which very often produces a Consumption. *Gerard* observes, that of Squills roasted with eight Parts of Salt, one Spoonful taken fasting loosens the Belly. And if the Infusion of Squills is given with strong Cinnamon Water, it seldom excites a Vomiting, but sometimes passes off by Stool, and sometimes by the Kidneys in a copious Stream. And hence its Use is so justly applauded in the Dropsy.

Having taken this Notice of the Virtues of Squills, it will not be improper to observe, that the Ancients had almost all their Remedies for Diseases of the Glands from the Sea; which I think deserves Notice, for we must naturally suppose, that their known Virtues were the Cause of their being almost universally used; especially as the Practice of the Ancients was not founded upon any particular Hypothesis,

but rather derived from Experience, that Mistress of all Arts.

As I have mentioned Squills, I hope to be easily excused if I take a slight View of the Remedies of the Ancients; but I would have this first taken Notice of, that it would, in my Opinion, be very wrong to deprive this Method of mine of the Assistance of other Medicines, which all other Methods of Cure claim as their common Right.

For though the *Sea-Water* can do many and very great Things by its own Virtues, yet it is sometimes assisted by the mutual Operation of other Medicines. But to return: The Medicines mostly used by the Ancients in Diseases of the Glands were prepared from a Calx, or a lixivial Salt. *Pliny* observes, that *the Ashes of Oyster-shells relieve the Inflammation of the Uvula, the Swellings of the Glands behind the Ears, Carbuncles, and Hardness of the Breasts.* And indeed the Ancients used all Sorts of Sea-shells calcined; also in the same Cases burnt *Pumice-stone, calcined Sponge, burnt Cuttle-fish Bone, &c.* And at present we find every Sort of Calx useful to dissolve Concretions, and correct the scorbutic Taint of the Blood. The Reader will perhaps excuse me if I relate the Case of a certain Patient who was long afflicted with a Cough and Spitting of Blood; but upon taking

ing the *Aqua Benedicta* of Dr. Bates, he spit up two Stones that were rough and softish like Chalk. I imagined this proceeded from the Stones not being intirely dissolved by that Medicine, which was taken with Milk. But however that might be, he was cured.

There is a Species of *Madrepora*, which the *Americans* burn to Calx, and, with this Remedy, cure the Natives of Swellings of the Glands, if we may believe their own Accounts. And the *Siamefe* have such a great Esteem for a certain Calx made of Sea-Shells, that they curiously temper their famous *Areca* with it, which they are almost always chewing. This Mixture is made of a certain Fruit about the Bigness of an Acorn, cut in small Pieces, being first mixed with the Calx of Sea-Shells. This is wrapt up in the Leaves of Betel. *Bontius* mentions this Medicine in his Book *De Medendi Methodo Indica*. Besides this, we have here, (says he) a peculiar and noble Medicine, which is made of *Areca*, Betel, and Lime made of burnt Oyster-shells, which being chewed draws Phlegm from the Head, and consumes the same in the Stomach, and prevents its filling the Head with Vapours, from whence those Catarrhs proceed. See Chap. 12. And afterwards says, For the Description hereof, and the other extraordinary Virtues with which it is certainly endowed, see in

in *Garcia's History of Spices*, Cap. *De Betel. & Arec.* Then also writing in the 18th Chapter of an obstinate Herpes, or Ring-worm; called by the *Indians Courap*, he says the following Liniment is used successfully.

R Of Opium half a Dram, Calx or Quick-Lime, made of burnt Shells two Scruples [so Bontius] rub them on a Marble Stone with the Juice of Love-Apples. When the Patient uses it, let him scrape off the Crust of the Herpes, then wiping off the Ichor, anoint the Part.

I recite these Passages to confirm the Use of a Calx with *Sea Water* in Diseases of the Glands.

Moreover, all the Kinds of *Alga*, or Sea-Weed, deterge powerfully, whence they had the Name of *Fucus*. The best for this Purpose is the *Quercus Marina*, newly taken out of the Sea. But as I shall hereafter give the Use of this Plant, with a Description thereof, I shall say no more of it here. The Ancients mention several Sorts of *Alga* or Sea-Wreck, as the *Palca Marina*, *Alga Lactuceæ*, and *Alga Fœniculata Tinctoria*, of which the latter was esteemed good against the Sting of the Scorpion, and was therefore used in the Theriaca, as *Nicander* affirms; and even at this Time our Fishermen, when they are stung by the
Paſtinaca.

Pastinaca marina, or *Sea-Dragon*, and can't get the Liver of the Fish, which they reckon a certain Remedy, in this Extremity have presently Recourse to Sea-Wreck, and apply it to the Swelling, which asswages the Pain of the Wound, and disperses the Tumor. We are also told by *Garidelius*, that the Inhabitants of *Provence* apply the Sea-Wreck to bruised Parts of the Body, which, by its Virtue, disperses the Contusions: And afterwards cites these remarkable Words of *Pliny*: *I myself knew a Man cured by the Sea-Wreck, who fell from a high Tree as he was lopping it, and broke almost all his Bones. He was wrapt all over with it, which was kept constantly moist with its own Water and was never removed, but when for Necessity of Change fresh was applied; and by this Means he recovered perfectly in so small a Time that it is almost incredible.* See *Pliny's Natural History*, L. 27. Cap. 8.

And tho' I know that *Pliny's* Authority has very little Weight among the Learned, yet a Distinction is to be made between those Things which he relates upon the Testimony of others, and what he declares he saw with his own Eyes.

But it is sufficient to my Purpose to draw this Inference from hence that the *Alga*, or *Sea-Wreck*, was used by the Ancients to dissolve

solve Tumors, to which Testimonies concerning Sea-Wreck we may add the Authority of *Dioscorides*. He takes Notice that Sea-wrecks of every Species are cooling, and particularly useful in the Gout and Inflammations, if newly taken out of the Sea.

The Ancients also used *Alcyonium*, or, as it is called, the *Froth of the Sea*, in the same Cases, of which they describe many Kinds; but *Dioscorides* affirms that to be the best Sort, which is of a red Colour. He says it was composed of a certain Matter resembling little Worms, and brought from *Miletus*. The Ancients used to calcine this with Salt, and made hereof a certain absterging Medicine. *Matthiolus* testifies he saw this at *Venice*. I confess, indeed, that I could never find any. Out of these Materials various Forms of Prescriptions are easily composed: But, after the Example of *Cælius Aurelianus*, I have most frequently used the following Powder with Success.

℞ Cuttle fish Bone burnt, Pumice-stone burnt, Saltpetre and Coralline, of each equal Quantities.

For Patients that are Children I use Coralline chiefly, because of its Excellence in destroying Worms. *Matthiolus* testifies, that a certain Boy, by this Medicine, voided above an hundred Worms; and *Brasavolus* observes that

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that Nitre is good for the same Purpose. *I give a Dram and a half of Nitre in Broth, and it brings away viscid Matter, and sometimes dead Worms; for it kills Worms in a wonderful Manner. I have given it, not exceeding a Scruple, to a vast Number of young Children, and it destroyed all Kinds of Worms. See Anton. Musa, Brasavol. De Medicament. Purgant. p. 122.*

Medicines outwardly applied are often successful against external Tumors. I have happily used a Lotion made of Oil of Tartar *per Deliquium*, mixed with *Sea Water*, when the Glands were almost turned to a Scirrhus. But if the Stricture of the Vessels is to be relaxed, *Pliny's* Decoction of Frogs in *Sea Water* is vastly preferable to the common *Plaster of Frogs*.

But Nature herself supplies us with the best Medicine for dissolving Tumors, in the *Quercus Marina*, or Sea-wreck, at one Season of the Year; for in *July* this Plant bears certain Vesicles or Pods that contain a slippery and soapy Juice. These Vesicles are to be squeezed in the Hands, and the Tumor rubbed with them till it imbibes this soapy Liquor: And Lastly, it must be washed with *Sea Water*, and dried perfectly clean. The following *Fucus*, or Soap, is equally, if not more, powerful for the same Purpose, which I frequently use.

R *Of the Vesicles of the Sea-wreck, full of their Liquor, gathered in July, two Pounds, Sea-water two Pounds, let them stand together in a Glass-Vessel ten or twelve Days, till it makes a Liquor nearly approaching the Thickness of the thinnest Honey, then strain it, and therewith rub the affected Glands (chiefly when the Tumor is abating) twice or thrice every Day. Afterwards wash it clean with Sea-water.*

Nothing exceeds this Method in the Decline of the Tumors ; for it disperses all Hardnesses.

But all the acid Prescriptions of Mercury promote a Callosity, as may be seen in the Use of the red Precipitate ; therefore to disperse Scirrhus Tumors, we must use such *Formulæ*, or Prescriptions, that stimulate the Solids without hardening them. And indeed these outward *Formulæ* are therefore beneficial, because they have a dissolving Power, and fit the Vessels to send back the Humours into the larger Tubes, whereby the Disorder is reduced to the Laws of Circulation, and is more under the Command of the Physician. But all those *Formulæ* are hurtful that promote a Suppuration, and it is our Business chiefly, either to guard against a Pus, or to extirpate the Tumor ; for when once a Gland is suppurated it fouls the Blood, and in a manner lays the Foundation of other Tumors ; therefore great Care is to be
taken

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taken by the Use of *Sea Water* to correct the Tone of the Solids as well as the Taint of the Fluids; and Regard must be had to both these Intentions jointly; for although *Sea Water* is alone very powerful, yet in Glandular Diseases of the Liver or Kidneys saponaceous Medicines are to be given, that by their Assistance the Stiffness of the Fibres may be lessened; that the Passages may become more slippery; and that the Stones in the Liver or the Kidneys may find a readier Passage upon drinking Salt Water. But if there is the least Cause to suspect a *Febricula* or little Fever, or Pus generating in the Bowels, I lay aside Soap and lixivious Salts, and depend entirely on Bleeding and salt Purgatives. *Sea Water* resists Putrefaction, and is not so apt to excite Imposthumes as the Rosinous Purges, as I observed before.

Besides which, *Sea Water* most excellently deterges and dissolves, and also draws forth the Humours from the tumified Glands.

Many cure Dropsies with Salt, and remove an old Cough with a Linētus thereof. Pliny L. 30. Cap. 9.

Neither were the Ancients ignorant of the Uses of Salt against Putrefaction, for they ordered it to be held under the Tongue, till it was dissolved, every Morning. They likewise

66 A TREATISE OF THE

wise used it to cleanse the Teeth and Gums, to restrain Erosions and all Putrefaction. And I believe it is an excellent Dentifrice, because amongst the great Number of Women that get their Living by daily picking up Shells upon the Sea-shore, you shall seldom see one with rotten Teeth; on the contrary, their Gums are generally firm, their Lungs sound and free from any scorbutic Cough; and this is chiefly caused by the saline Particles which are communicated to the Air from the Surface of the Sea; or rather which are dashed out by the breaking of the Waves, for little or no marine Salt is exhaled by the Heat of the Sun.

It would be unjust in me to pass by the Use of this Method in a *Bronchocele* or Swelling of the Fore-part of the Neck, because it is here of great Service. And whilst I was writing this I received a Letter from my very learned Friend Dr. Lee, which confirms this. *Sea Water* (says he) *is of great Benefit in many Kinds of Diseases. This Medicine performs those Effects in strumous and scorbutic Cases, which perhaps you may in vain wish for from any other. A Bronchocele which was fixed many Years, so that the Breathing was greatly affected thereby, either in speaking or moving, was cured by this Remedy. I knew the Leprosy itself twice cured by Drinking and Bathing, when the Surface of the Body was*
almost

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almost covered with Spots and Scales : But this you are well acquainted with ; and others should understand that the same Helps agree with all Patients as well as with all Distempers, and would certainly agree with them more easily and frequently if their Use was more accurately observed, by Persons rightly qualified.

When a *Bronchocele* hath continued a long Time it generally contains extravasated Humours, which must be treated by manual Operation.

In the mean Time I persuade the Patients to shave their Heads, and expose their Necks to the cold Air, and to rub them with moist Sea-wreck, upon the Decline of the Tumours of the *concatenated Glands*, [of the Neck] for nothing, as far as I can judge, does so much weaken the Tone of the infirm Parts as the Use of warm Cloathing. Indeed the whole Regimen, of Cloaths, Food, Air, and Medicines should be cold, which often prevents a Scirrhus or a Cancer ; for the warmer State of the Air makes these Distempers more common among the *Asiatics* than in the more Northern Countries. *As to external Causes, chuse a cold and moist Air, chiefly cold. Hence Cancers are seldom found in Germany, but frequently in Asia. See Fabricius ab Aqua Pend. p. 120.*

I have often had Boys brought to me, weak, pale, with long thick Hair hanging down their Necks, and covered up with the greatest Care, lest the tender Creatures should be killed with the Cold, the whole Texture of the Body being relaxed with the Heat of their Cloathing, and with nocturnal Sweats. I have sent them back to their Parents, with their Hair cut off, their Necks bare, with a florid, youthful Countenance, having first strengthened their Limbs by bathing in the Sea.

I mention this to persuade fond Parents not to enervate their Children, that are naturally healthy and strong, by too warm Cloathing in their Infancy.

The *Sea Water* is also an excellent Remedy where the Belly is bound; for the Intestines being evacuated by its Assistance, and Crudities carried off, which would else oppress the morbid Bowels, it gives an easier Passage to the Gravel and Stones out of the Biliary Duct.

And thus I have faithfully declared, as far as I am able, what may be done, and what cannot be done by *Sea Water*; but where there was the least Cause to doubt, there I have been silent, or have acknowledged my Ignorance, without imposing my Conjectures or Fancies upon the Reader. The several Cases subjoin'd were treated under my own, or by my Friend's

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Friend's Inspection, whose Relations I can as much depend on as if I had seen them with my own Eyes; and although we do not always meet with the same Success, yet I have more Dependence upon this than any other Method.

But as some Persons, perhaps, will be desirous of knowing how I came first to take notice of this Medicine, and upon what Authorities I was induced to apply my Studies to discover its Use, I shall add a few Lines on this Matter.

In the first place, I had long since observed, that the Inhabitants of the Sea-Coast made use of *Sea Water* in Disorders of the lower Belly, and chiefly in those proceeding from Worms. I also found, that *Dioscorides* employ'd a whole Chapter in reciting its Virtues; but I found that both he and *Pliny* either had transcribed the vulgar Opinions, or else knew little of the Power of this Medicine, and but little approved of its Use: And I was the more persuaded of this because I saw this Water successfully used by the Inhabitants of the Sea-Coast. And these Circumstances pointed out some extraordinary Observations of its Virtues, which led the way to these diligent Enquiries. Besides, I had experienced that *Glauber's Salt* was an excellent Purgative in many cutaneous Dis-

Disorders, and resolved to try the Effects of *Sea Water* in the like Cases, and I presently found it was an excellent Medicine in Disorders of the cutaneous Glands.

Afterwards in 1730 I read a Book intitl'd, *The Domestick Companion*, which advises the Use of *Sea Water*, and commend's it to Sailors as a most convenient Purge. And lastly, some Years ago, having some Conversation about this Matter with Mr. *Webb*, who is a very worthy Man, and a skillful Surgeon, and who had try'd the Virtue of this Medicine, he press'd me to try farther, and consider it more accurately.

And these are the Reasons and Authorities which first led me to use *Sea Water*, and afterwards confirmed me in the Knowledge of its Virtues. And indeed I have employ'd much Labour, Study and Diligence in this Matter, in repeating various and almost infinite Experiments. I think proper to observe before I proceed to the Recital of the several following Cases, that all the Medicines here prescribed were procured from the Apothecaries Shops, and that every Case is selected out of several of the same Kind, lest a longer Account of Cures should prove tedious to the Reader.

CASE

CASE I.

Of the Glands of the Lungs matured, with large Tonsils and scrophulous Tumors in the Neck, and near the Ears.

I Was sent for to a Boy twelve Years old, extremely wasted with a Hectic Fever, which proceeded from the Pus retained in the Lungs. He had an almost continual Cough, no Spitting, but an extreme Difficulty to walk. His Tonsils were large, his Neck full of scrophulous Tumors, two of which, near the Ears, were very hard, and full of Pain.

To stop the Progress of the Abscess, I order'd Venesection, under which the Boy almost fainted; this was followed by violent Fits of Coughing and Vomiting, which broke the Imposthume, and he threw up a little of the Pus or Matter. I remember the same thing happening several times before; for when the Elasticity of the Part affected is restored by Bleeding, the Pus is presently ejected. I then gave him what follows:

R Sperma Ceti one Scruple, Salt of Nitre eight Grains, Coralline half a Scruple, Milk-water an Ounce and a half, simple Cinnamon-Water half an Ounce, Syrup of Balsam one Dram.

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Dram. Mix it for a Draught, to be taken three times a Day.

℞ *Sperma Ceti one Scruple, prepared Pearls one Scruple, pearl Sugar half a Scruple. Mix them and make a Powder, to be taken Night and Morning in a Spoonful of Asses Milk, drinking after it a Draught of the same.*

By these Means, and by gentle Riding, his Lungs were cleansed, and the Cause being removed, the Hectic Fever ceased : But a little Cough remaining, the Patient was removed to *Brighthelmstone*, a Town near the Sea, that he might be near the Remedy designed for the Cure of Obstructions. Then he first took a Purge of *Glauber's Salts* and *Manna*, and after pursued this Method.

℞ *Of Æthiops Mineral twenty Grains, of Woodlice eight Grains, precipitated Sulphur six Grains, the Pulp of Cassia Fistula, enough to make them into a Bolus ; to be taken going to Rest, drinking half a Pint of Sea Water the next Morning.*

℞ *Tincture of Woodlice prepared with Tincture of Salt of Tartar two Ounces. Take a Tea-Spoonful an Hour before Dinner, every Day, in a Draught of Bristol Water, mix'd with a little Rhenish Wine.*

These

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These Medicines gave him three or four Stools a Day, his Appetite returned, he began to improve in Flesh, the Tumors of his Neck and Tonsils grew less. Soon after I ordered his Head to be shaved, his Neck to be kept uncovered, and the Tumors to be washed daily with the following Lotion ;

R *Of Oil of Tartar per deliquium half an Ounce,*
Sea Water one Pound. Mix it for a Lotion.

And by these Means the Tumors were dispersed by Degrees. Towards the End of their Diffipation I ordered his Neck and the Parts affected to be rubb'd with *Quercus Marina*, [Sea-wreck,] newly taken out of the Sea, and moistened with its native Soap ; and thus the Tumors disappeared intirely. Then continuing to drink *Sea Water* for three Months, I order'd him the Cold Bath. The Boy used to swim in the Sea with his Companions, and thereby grew stronger and better able to endure Labour, and having thus recovered his Health he departed.

I have treated this Cause more fully, that it might appear at what Time of the Disease I used to prescribe *Sea Water*, and to shew how convenient it is to use this Cathartic several Months. And it is to be observed that the Thirst which happens at first, after drinking the Water, generally goes off by frequent Use. This will suffice for the treating of the Glands

of the Lungs in a State of Maturation. But it is to be noted, that unless the Pus, is first thrown up out of the Lungs, the *Sea Water* has very little Effect; and except new Fluxions are prevented by a constant drinking it, the weak Parts cannot recover their former State, and the Disease will necessarily be renewed.

C A S E II.

Of morbid Glands not suppurated.

A Servant of the most noble Duke of — came to me. He had a large Tumor reaching from the Ear to the Collar-Bone, which I suspected to be hereditary, because his Sister was afflicted in the same Manner; but because he had contracted a Hectic Fever by a wrong Use of Calomel, I sent him to *Bright-helmstone*; then, after Bleeding eight Ounces, I gave him the following Medicines.

℞ *Æthiops Mineral two Ounces, prepared Woodlice two Drams and a half, burnt Sponge two Drams, precipitated Sulphur two Drams, Conserve of Paronych. six Drams, solutive Syrup of Roses, enough to make it into an Electary. The Quantity of a Nutmeg is to be taken Morning and Evening, drinking a Pint of Sea Water after the Morning Dose.*

℞ *Tincture of Sal Tartar six Drams, Tincture of Saffron two Drams. Take a Tea-spoonful*

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ful an Hour before Dinner in a Draught of old Hock.

The concatenated Tumors of the Neck disappeared ; the large Tumor, which was as it were the Root of the rest, grew less ; but there remained a certain small Gland without any Pain, which was yet so smooth and polished that it seemed to be a true Scirrhus. But the Patient not consenting to have it extracted, it began the next Spring to mature. Then the Imposthume was opened by Mr. *Mercer*, a Surgeon ; the Coat of the Gland was cleansed ; and the Patient grew well, without any new Tumors yet appearing, though there is Danger of a Relapse.

CASE III.

Of the Tumesfaction of the Glands of the Knee.

I Was called to a certain Patient afflicted with a pretty large Tumor upon the Joint of the Knee, which had entirely withstood the Force of the common Method. His Habit was robust and fat ; his Pulse calm, only a small Pain in the Part affected, which could not perform its Offices, because of the Thickness of the Joint and the Fluxion, which had continued for eight Months ; but even this Person was cured by the following Method.

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After Bleeding I prescribed an Emetic of *Ipecacuanha* and *Turpeth Mineral* once a Week, and on the other Days the following Electary with *Sea Water*.

R Of *Vegetable Æthiops* [hereafter described] three Drams, *Cuttle-fish Bone* burnt three Drams, *Coralline* half an Ounce, prepared *Woodlice* two Drams, *Conserve of Paronych.* an Ounce and an half, *Syrup of the five opening Roots*, enough to make an Electary, of which take the Quantity of a Nutmeg twice a Day, drinking a Pint of *Sea Water* next Morning.

The Part affected was daily anointed with fresh *Unguent. Nutrit.* and as the Tumor grew less, he used cold Bathing in the Sea, and a slight Friction of *Quercus Marina* to strengthen the Part. In this Manner the Tumor was subdued, and the Man could walk without any Trouble.

C A S E IV.

Of the Tumefaction of the Glands on the Edges of the Eyelids.

THE Inflammation and Soreness of the Eyes, which proceed from continual Fluxions on the Glands of the Eyelids, are extremely troublesome to the Physician and Surgeon, whether they proceed from a strumous or

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or scorbutic Cause. But because all these Disorders in general are cured by this Method, I shall only take notice of the most difficult Cases of this Kind, where both these Disorders are united.

I was sent for to a Man two and forty Years old ; he was afflicted with an Inflammation of the Eyes and a Lippitude, from a continual Fluxion upon the Glands of the Eyelids. The Vessels of the conjunctive Membrane, or the White of the Eye, were swelled, so that they seemed to depend, and had the Appearance of a *Fungus* : The Cornea began to be ulcerated. In this Case I ordered Bleeding three or four Times at proper Intervals ; Issues were opened in the Nape of the Neck, and the following Method was entered upon.

R *Æthiops Mineral* two Ounces, *Vegetable Æthiops* three Drams, *Woodlice* two Drams, *red Coral* prepared three Drams, *Syrup of Violets* enough to make an *Electary* ; of which take the *Quantity of a Nutmeg* Morning and Evening, drinking a Pint of Sea Water after the Morning Dose.

The Patient was of a strong habit, and his Pulse quiet ; and he bore the daily Evacuation without any Inconvenience. The Fluxion presently decreased, and by the aforesaid Prescription he was restored to Health. *Lommius* has observed, that the same Cases are frequently

relieved by Nature. *A Flux of the Belly is good for those that are affected with a Lippitude.*

At length the Fluxion ceasing, he rubbed his Temples, Eyelids and Forehead every Day with *Quercus Marina* or Sea Wreck, or washed them with cold *Sea Water* for some Time after his Recovery, and he hath been free from this Disease seven Years; although before this Cure, upon taking any Cold it was wont to return. I have sometimes seen this Disease accompanied with an intermitting Fever, which could not be conquered without the Bark; but in the Case just now mentioned the Bark had little Effect. And there is another now present whilst I am writing, whom I formerly attended; he had a Fungus, that grew outwardly from the upper Eyelid; the lower Eyelid was turned back, and the Eye thereby covered. Afterwards, when the Flux of the Humours was diminished, I perceived the Coats of the Eye were ulcerated, and a *Lippitude* of both Eyelids caused by the Excoriation. The Patient was cured by the following Method.

Take away Twelve Ounces of Blood.

R Of calcined Spunge, Cuttle-fish Bone prepared, of each half an Ounce, Woodlice prepared three Drams, Æthiops Mineral two Ounces, Conserve of Paronych. ten Drams, Syrup of Violets, enough to make it into an Electary; of which take the Quantity of a Nutmeg Morning

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ing and Evening, drinking a Pint of Sea Water after the Morning Dose of the Electary.

℞ *Tutty prepared, and Salt Petre, of each two Drams, Mucilage of Quince-seeds, enough to make it into a Liniment to anoint the affected Eyelids every Day.*

CASE V.

Of a scrophulous Ozæna, or fetid Ulcer in the Nostrils, with a Swelling of the upper Lip, and scorbutic Eruptions upon the Cheeks.

A Certain Person came to me, who had before tried all that *Mercurius dulcis* and every other Medicine of that kind could effect alone ; but the Distemper was not at all mitigated hereby, but grew worse: For besides the *Ozæna*, certain Tubercles of the worst Colour began to appear near the Nose, Cheeks, and upper Lip ; the Nostrils were so stuffed, and so crusted over, that he could breath only through his Mouth. The Distemper was extremely difficult to be conquered, but yielded at last to the following Method, wherein I gave *Mercurius dulcis* in small Doses for some Months with *Sea Water*.

℞ *Of Glauber's Salt one Ounce, dissolve it in one Ounce and an half of Milk water ; add to the Solution compound Piony-water half an Ounce, Syrup of Violets half an Ounce. Mix*

E 4

them

them for a Draught to be taken in the Morning, with the proper Regimen.

R *Of Vegetable Æthiops half an Ounce, prepared Woodlice two Drams, burnt Pumice-stone one Dram, Cuttle-fish Bone burnt two Drams, Æthiops Mineral two Ounces, Conserve of Paronych. ten Drams, Syrup of Violets enough to make an Electary. The Quantity of a Nutmeg is to be taken Night and Morning, drinking a Pint of Sea Water after the Morning Dose.*

The Patient grew better daily ; but when he was tired of this Electary I perfected his Cure with the following Pills and *Sea Water*.

R *Of Camphire half a Dram, Vipers Flesh two Drams, Scammony sulphurat. one Dram and a half, Calomel one Dram, Syrup of Buckthorn enough to make them into Pills, ten Pills of every Dram ; of which take two every Night ; or once in two Nights going to Bed, drinking a Pint of Sea Water the next Morning.*

Observe, that when the Cure of the Tumors was perfected the Liniment of *Sea Water* and *Quercus marina* was used, to strengthen the Parts that were still weak.

CASE

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CASE VI.

Of various Foulnesses of the Skin.

I Was sent for to a Woman that was troubled with scorbutic Eruptions about the Ears and Face, which fouled several Linen Cloths every Day. The Eruptions were partly covered with a mealy Yellow Crust. She had tried many Remedies but still grew worse : At length she came to live near the Sea, and there took every Morning antiscorbutic Medicines and the *Sea Water*, and deterged the Skin with *Quercus marina*, taken from the Shore, and by this Method in two Months Time the Woman grew well.

CASE VII.

Of a moist Leprosy.

A Woman of an extreme scorbutic Habit, had been affected nine or ten Years with a kind of moist Leprosy. Many skilful Physicians had endeavoured to extirpate the Disease, but with little Success. The foul Humours were transmitted plentifully thro' the Skin, and in a manner quite covered it, chiefly on the Face, Head and Neck ; besides which, her Ears stood erect by Reason of their unusual swelling, so that they appeared like the Ears of the Satyrs, as they are fabulously described by

the Poets. Lastly, her whole Frame was foul and nasty.

I advised the Use of Antiscorbutics with *Sea Water*. The Distemper was conquer'd by Mr. *Newington*, Surgeon, whose Letter I received whilst I was writing. He commends the good Success of this Method, because, upon taking *Sea Water* only two Months the Woman grew well, and to this Day, (it being now a Year since she was cured) she never perceived the least Signs of a Relapse. The Wife of Mr. *H.* a Sea Captain, was affected in the same manner, and cured by the Help of Alteratives and *Sea Water*, as I am assured by Mr. *Snashall*, Surgeon.

C A S E VIII.

Of a dry Leprosy.

A Girl of twelve Years of Age was troubled with a dry Leprosy, the Top of her Head, and her whole Body, was sprinkled over with white *furfuraceous*, or branny Spots. I gave her the following Medicines.

R *Of Calomel six Grains, Camphire one Grain, Conserve of Paronychia, enough to make a Bolus, drinking the following cathartic Draught next Morning.*

R *Of the Decoction of Senna two Ounces, Manna three Drams, Glauber's Salt two Drams, compound.*

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compound Piony-water two Drams, solutive Syrup of Roses two Drams; mix for a cathartic Draught.

R Of Vipers Flesh one Scruple, Camphire one Grain, Conserve of red Roses, enough to make a Bolus; to be taken every Night going to Rest, drinking half a Pint of Sea Water the next Morning, when the Calomel Bolus is not to be taken.

Within fourteen Days the Eruptions began to scale off, and this most troublesome Distemper, in the second Month, without any other Help, was removed by this Method alone. Which Cure being talked of, another Patient came to me, afflicted with the same Disease, and he was soon cured by the same Means.

CASE IX.

Of a scorbutic Eruption, resembling a moist Leprosy.

J. P. whom I have mentioned before, had formerly had a Disease of the Venereal Kind, and from the Time of its Cure had been in good Health 'till these Eruptions appeared. They were universal, and partly incrustated, and partly moist. First they seized his Head and Arms, and then the rest of his Body and Limbs, so that he could bear no Cloaths on. He was very poor, and was sent to St. Thomas's Hospital

Hospital at *London*, under the Care of a very skilful Physician. He underwent a Salivation by anointing; but as I observed before, he returned hectic and emaciated; the Eruptions were fretted and made worse by the Salivation. He was cured by the following Method.

R Of vegetable Æthiops three Drams, Flowers of Sulphur half an Ounce, Cuttle-fish Bone three Drams, Conserve of Mallows one Ounce and an half, Syrup of Violets, enough to make an Electary. The Quantity of a Nutmeg is to be taken every Night going to Rest, drink a Pint of Sea Water next Morning.

It appears very plain that this Distemper was not at all venereal, as was thought; because it was not palliated by Mercury, and because I neither prescribed Mercury nor Æthiops Mineral in the Cure afterwards; it is therefore easy to see what Power this Method hath in scorbutic Diseases, where Mercury fails of Success.

C A S E X.

Of a Gonorrhœa.

WHAT I am going to say of the Cure of this Distemper by *Sea Water*, I do not very confidently advance, because I have but seldom treated it in this Method; yet I recommend

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commend it to the Consideration of Physicians, because I am apt to think that it will hereafter prove a most useful Remedy in these Cases.

I have given the following Medicines against a virulent Gonorrhœa.

R Of Calomel fifteen Grains, Camphire three Grains, Pulp of Cassia Fistula, enough to make a Bolus; to be taken going to Rest, drinking a Pint of Sea Water next Morning.

Thus the Acrimony was soon suppressed, taking also the following Powder two or three times a Day.

R Of Sal Prunel and white Sugar-candy, of each half an Ounce; mix them and take a Dram in half a Pint of Barley water two or three times a Day.

Afterwards the Cure was perfected by the Help of Balsam of Capivi and Loaf-sugar, tho' there seemed to be no Occasion for it, nor do I think it so necessary after this Method as after the common Way of Cure; for I know no other Benefit arising from Salt Water than Purg-
ing; and as the Nitre in *Sal Polychrest* and *Sal Prunella* relieves the Strangury, so I think in like manner the Sulphur and Salt contained in *Sea Water* are beneficial; at least the saline Purges do not augment the Inflammation, but rather restrain it. In the mean time, I confess,

I have only treated two or three Cases of this kind.

C A S E XI.

Of the Humoral Rupture.

I Was sent for to a Person who laboured under an Humoral Rupture, which arose from the Suppression of a Gonorrhœa; the Patient was cured in the following Method.

Take away twelve Ounces of Blood.

R Ipecacuanha twenty Grains, Turpeth Mineral three Grains, Conserve of red Roses enough to make an emetic Bolus, to be taken as Occasion requires, drinking a Pint of Sea Water in the Morning of those Days when the Emetic is not taken.

R Of Bean Flour half a Pound, Sea Water two Pounds, boil them to the Consistence of a Poultice; adding towards the End Unguent. Nutrit. three Ounces; make a Poultice to be applied to the Part affected.

The Tumor subsided, without leaving any bad Symptom: But as I observed before, these Remarks are not sufficient to establish this Practice, the Way is only opened for future Experience.

C A S E.

C A S E XII.

Of the morbid Uterine Glands.

I Lately cured an obstinate *Fluor Albus* with bathing in the *Sea*, drinking *Sea Water*, and what follows.

Take away six Ounces of Blood.

℞ *Ipecacuanha* thirty Grains, *Carduus Water* two Ounces, *Oxymel of Squills* one Dram. *Make an emetic Potion, to be taken as Occasion requires.*

℞ *Of Spodium* half a Dram, the *Yolk of an Egg*, with enough of the *White*; small *Cinnamon water*, one Ounce and an half, strong *Cinnamon-water* half an Ounce, white *Sugar-candy* one Dram. *Mix and make a Draught to be taken Morning and Night, drinking a Pint of Sea Water once or twice a Week.*

It is to be observed, that I used to prescribe purging with *Sea Water*, as often as the Patient can bear it without Inconvenience, especially if the *Belly* is bound; I sometimes also prescribe the following Injection.

℞ *Balsam of Copaiba* three Drams, dissolved in a sufficient Quantity of the *Yolk of an Egg*; *Sea Water* one Pint. *Mix them for an Injection.*

C A S E

C A S E XIII.

Of a Tenesmus, with Ichorous Stools.

A Certain Woman thirty Years old, laboured under a Suppression of the Menfes. Many Glands were morbid by the long Continuance of the Green Sicknefs; she had œdematous, or white, soft and insensible Tumors on her Legs and Face; the Glands of the *Rectum* were so tumefied as to obstruct the Passage, and she suffered most grievous Pains in going to Stool; at the same time there was a continual Discharge of Ichor, or a sharp, sanious Humour, with a most painful Tenesmus, or a continual Desire of going to stool. The Woman was cured by the following Prescription, and the Menfes were restored, and became regular.

℞ *Precipitated Sulphur ten Grains, Vegetable Æthiops half a Scruple, Sperma Ceti one Scruple. Mix and make a Powder, to be taken Morning and Night, drinking a Pint of Sea Water after the Morning Dose every Day.*

Because in this Case the hardened Glands of the *Rectum*, and the foul, sharp Humour created a Suspicion of a Cancer, I think this Cure sufficiently shews the Virtues of Salt Water in dis-

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discussing recent Tumors of the intestinal Glands ; for the Woman by the Help of it was freed from a very bad State of the Blood, and from many Obstructions : From whence we may conclude, without Rashness, that the *Sea Water* helps by other Means as well as by Revulsion.

C A S E XIV.

Of a fixed scorbutic Rheumatism, in the Feet and Knees.

THE Captain of a Ship, who was of a full Habit was afflicted many Years with Fits of the Gout, and a scorbutic Rheumatism, by which the Joints were grown stiff, and the Glands distended by the long and frequent Fits ; his Legs and Thighs were so swelled with the Scurvy, that he could scarcely crawl. I prescribed him an Electary of Æthiops Mineral, Gum Guaiacum, compound Powder of Arum, &c. to be taken daily with *Sea Water* ; the Patient by these Means recovered, and the Thickness of the Joints was diminished ; from hence it appears, by what Means *Sea Water* begins the Cure ; that is, by opening a new Secretion, and by alleviating the morbid Part,

CASE

C A S E XV.

*Of the Tumefaction of the Glands in the Neck,
with an Ulcer in the Wrist.*

THE Virtue of this Remedy in Ulcers accompanied with any Fluxion, will appear by the following Cure. A certain Person had an ulcerated Tumor on the Joint of the Wrist, and the Glands of his Neck were scrophulous ; but he recovered by taking an Electary of Æthiops Mineral, and by purging with *Sea Water*. And this Remedy is so certain a Cure, that Mr. *Webb*, a Surgeon of *London*, whom I have mentioned in another Place, in a Letter I lately received from him, amongst other Things writes thus, *But this I affirm from certain Experience, that where the Disease is settled upon the Bones of the Wrist, or the Ankle, this Method is always successful ;* and further adds, *That he had seen an obstinate Dis-ease of the Arm cured by the same Method.*

But when the Fluxion is derived from the affected Part, it sometimes falls upon another ; and this happened in the Patient above mentioned ; for when he was cured, a large, hard Tumor began to rise in the inner Part of his Knee, but he was cured by the same Medicines as before, though the Tumor was almost as hard as a Bone ; and I remember almost the same

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same Thing happening to another Patient under the Care of Mr. *Mannings*, a Surgeon.

C A S E XVI.

A Gentleman of a good Family, came to me by the Advice of the ingenious Mr. *Sainthill*, to try the Effects of *Sea Water*; he had a large Tumor behind the Ear, and several hardened Glands in his Neck. Before he came to me, he had regularly tried all Mercurial Medicines in vain; but there was something more to be conquer'd, than has been mention'd above; for in this largest Tumor there was an Ulcer; I prescribed Alteratives with *Sea Water*, and an Embrocation with the marine Fucus to dissolve the Scirrhotities; in three Months Space the Tumors of the Glands disappeared, and towards the End by bathing in the Sea, the Patient was restored to Health; but as there was an Imposthume in this Case, I suspect a Return of the Distemper.

C A S E XVII.

MR. *Webb*, a Surgeon in *London*, sent a young Man to me, the Glands under whose Collar-Bone were tumefied, one of which that was most swell'd was as big as a little Egg; and near it, one of the Tubercles was broke, the Pus being maturated; the eminent Surgeon
before

before mentioned, ordered the Wound to be dressed with Lenients; when the Patient had taken *Sea Water* with Alteratives for two Months, he went away cured; bathing in the Sea at the latter End of the Time. There was not the least Tumor remaining, nor any Marks of the Disease; except that where the Tubercle was broke, there remained a little Hardness, which might perhaps hereafter prove the Seat of a new Imposthume; for I have observed, that the Sores of the King's Evil, often return near the old Scars, 'till the Capsula of the Gland is quite eaten away by the Pus, and is cleansed. The Ancients made the same Observation; for according to *Celsus*, *The strumous Swellings are apt to return near the former Cicatrices.* L. 5. C. 28. Sect. 7.

C A S E XVIII.

Of a dry, furfuraceous or branny Leprosy.

A Certain Person came to me with a dry, furfuraceous Leprosy; there were several Clefts in his Hands, and his Nails were bent, and the Disease prevailed from the Top of the Fingers to the Wrists; he had tried many Remedies without Success, and among the rest *Sea Water*; but by the Help of vegetable Æthiops, Vipers Flesh, and Antiscorbutic Juices, the Force of the Distemper was broken. Indeed,

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deed, many Diseases of the *Serpiginous* Kind will not yield to *Sea Water*, unless continued a long Time; but few can resist its whole Strength. However, I seldom thoroughly experienced the Power of this Remedy in these Cases, because most Patients are tired with the Tedioufness of the Cure.

C A S E XIX.

ALTHO' certain cutaneous Eruptions before mentioned, are not easily cured by *Sea Water*, yet I saw one of my Relations cured by this Method. He was troubled with an Herpes of a bad Colour, inclining to be brownish, which had fixed on his Face all the Winter. Early in the Spring, by Order of my Friend, the celebrated Dr. *Wilmot*, he took an Electary of Antimony, &c. twice a Day, and *Sea Water* next Morning; the Power of the Remedy exceeded our Hopes; for the Patient was soon restored to Health, altho' he had taken Vipers Flesh, &c. the Winter before in vain; indeed from that Time, I ordered him to take alterative Medicines at four in the Afternoon, and going to rest, because they ought to be allowed to exert their Virtues before they are discharged by Cathartics.

This Cure was performed under the Inspection of my worthy Friend Dr. *Lewis*, of *Christ-Church*

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Church College, Oxon, who is well skill'd in Physic, to whom, and the most friendly Gentleman *Jeremiah Markland* (who quitted better Studies for some Time to correct this Work) I have the highest Obligation, and return the greatest Thanks.

C A S E XX.

A GIRL living at *London*, about fourteen Years of Age, was troubled with harden'd Glands in the Neck and Arm-pit, with an Imposthume in both Places; having taken Calomel for some Time, she was attack'd with a hectic Fever and a Cough; she came into the Country, and changing her Medicine, she took *Æthiops Mineral*, &c. with Lime-water and Sea-water, at proper Intervals; in the Space of two Months the Cough, the hectic Fever, and the ulcerated Glands, were cured, and she returned to *London* fatter, and of fresher Complexion.

C A S E XXI.

THERE is brought to me, while I am now writing, a recent and most melancholy Case of the *Rectum* or strait Gut, and of the lower Belly, with morbid Glands, which occasioned a bastard Iliac Passion in a Woman I had seen a little before; they thought she was
big

big with Child, when she only laboured under a Suppression of the Menfes for about ten Months; upon examining the Abdomen, it seemed to me to be composed of a certain Collection of morbid Glands, which by the Afflux of Humours, during ten Months, was grown to that Bulk, that it shut up the Passage of the *Rectum* so that there was no Vent for the Excrements but by vomiting. But I have subjoin'd the Description of Mr. *Maynard* the Surgeon, who saw her dead (*December 13, 1748.*) The Woman, says he, died the *Thursday* after you saw her; I inspected her after her Death, and cut out the Tumor of the Glands, which was six Inches long, and about ten or twelve in Circumference; it weighed almost three Pounds. There was also, another Tumor larger than the other, by which the Passage of the *Rectum* was so obstructed, that it was impossible there should be any Thing excreted. I saw also another Case of the same Nature in a Man, in whom the Passage of the *Rectum* was so shut up, that a small Candle could not be thrust upwards above three Inches; nothing passed by Stool for the Space of forty Days; we sent to *London* for Advice in this Case, and Quicksilver was prescribed, of which he took altogether, three Pounds; in the mean time nothing passed by Stool but the Quicksilver, every Thing also came upwards; during all that Time,

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Time, he had no Fever ; at length, the Lungs began to be inflamed, and the Inflammation occasioned his Death.

C A S E XXII.

Of excoriated Breasts.

THE Menfes failed a certain Woman of a very full Habit, almost forty-nine Years old, the Spring after this Suppression, a Flux of Humours fell upon her Breasts, which was so copious and sharp, that they were both excoriated ; but there was no Hardness of the Breasts, though they were of an unusual Bigness ; the Glands of the Skin were grievously affected, and there was a Tubercle, something hard, of an inauspicious Colour, upon the left Collar-bone.

Although these Signs portended little Good, yet I undertook to remove the Fluxion with *Sea Water*, and entered upon this Work in the following Manner.

Take away sixteen Ounces of Blood directly.

℞ *Of Glauber's Salt one Ounce, dissolved in Milk-Water one Ounce and a half ; compound Piony-Water, half an Ounce, Syrup of Violets, half an Ounce ; mix them for a purging Draught, to be taken in the Morning.*

℞ *Of Ethiops Mineral, two Ounces ; Woodlice*
pre-

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prepared, two Drams; burnt Sponge, two
Drams; Conserve of Paronychia, ten Drams;
Syrup of Violets, enough to make an Electary,
of which take the Quantity of a Nutmeg,
Morning and Evening, drinking a Pint of
Sea Water early in the Morning every Day.

We took Care to have the excoriated Parts anointed, with a Feather dipt in Unguentum Nutrit. and applied Dr. *Turner's* Cerate of Lapis Calaminaris between the Breasts, to prevent the spreading of the Excoriation.

By these Means the Flux which gave Signs at first of being very difficult to cure, was stopt in less than two Months ; the natural Shape of the Breasts was restored ; nor was there one cutaneous Gland which appear'd to be hard. The Tubercle of a bad Colour mentioned above, which was plainly of a cancerous Kind, as far as I could see was neither better nor worse ; but continued for several Years with little or no Alteration.

CASE XXIII.

*Of a hectic Fever proceeding from Pus retained
in the Lungs.*

A GIRL about twelve Years old came to me afflicted with a hectic Fever and a hard and weak Cough; her Belly was tense and hard; her Urine of a whitish Colour,

whence

whence her Parents judged her Illness proceeded from Worms; therefore, before she came to me, they had given her *Æthiops Mineral*, *Calomel* and *Hellebore*, and earnestly entreated me to agree to the Method of *Sea Water*, but I judged that the Child's Health was impaired by the Pus detained both in the Lungs and Mesentery; because, I observed some Glands in her Neck, tumefied with a Kind of Knots; and also, that the Fever was attended with frequent Fits of shivering; so that there was little Cause to expect any Relief from Physic, the *Pus being already generated*.

At length being doubtful, I yielded to the Use of *Sea Water*, which presently purged her without much Trouble, but without any Appearance of Amendment; for the hectic Heat, and the other Symptoms (as I suspected) grew worse. Fearing they might be heightened by this Method of Cure, I forbid her the Use of *sea Water*.

Continuing much in the same State, she soon after went to *London*, but by the Advice of the Physician she consulted, she returned as soon as possible into the Country, where she died about two Months after; at which Time I was called, for the Sake of inspecting the Cause and Origin of the Disease.

The

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The whole Lungs were beset with small matured Glands, and appeared much like the Lungs of the measly Sow before mentioned, but the larger Branches of the Windpipe were yet free from *Pus*, whence no purulent Spitting accompanied this Disease; I found the Liver whole and sound, but the Mesentery was sprinkled with morbid Glands, of which several were matured.

I was willing to add this Case to the rest, to shew, that there is little Help to be expected from this or any other Method, when the Patient is reduced to these Extremities. I said before, that the larger Branches of the Windpipe were free from *Pus*; for I saw, that the glandular Tumors arose from the Glands situated in the small Branches of the Windpipe; for wherever the Branches of the Aspera Arteria or Windpipe, grew so small as not to be seen by the naked Eye, there I found them always intersected by a Globule of purulent Matter. But in these Diseases of the Mesentery, the Glands are usually vitiated before any Attempts are made towards a Cure; wherein, if there happens also to be an Imposthume, all Hopes of Relief are vain, which might otherwise have been expected from the Assistance of Physician.

As Dr. Sydenham was not thoroughly acquainted with the real Cause of these Distem-

pers, he is mistaken in attributing these Tumors in ricketty Children to the repeated Use of Purgatives; for, if he had carefully examined the concatenated Glands of the Neck, I make no Doubt, but he would there have found plain Arguments to believe, that those Tumors generally existed before the Use of Purgatives.

C A S E XXIV.

Of a Colic with a Constipation of the Belly.

I Was sent for to a poor Fisherman, who was troubled with a very painful Colic, his Belly being also bound. I prescribed as follows:

Take away eight Ounces of Blood.

R *Flowers of Camomile, one Handful, boil them in a Pint and half of Sea Water to a Pint, and strain it for a Clyster, to be given immediately.*

I persuaded him after the Clyster, to take a Draught every four Hours made with Oil of Sweet Almonds and Manna, till he had a Stool; but as I heard afterwards, the Draught was omitted, because the Patient found the Clyster alone had a sufficient Operation.

C A S E XXV.

Of a Jaundice.

A Lady had been afflicted above a Year with the Jaundice, and with frequent Fits of a very violent Colic from the same Cause; she went to *London* to consult the ingenious Dr. *Lee* in this Case; she returned from the Town, the Violence of the Disease being nothing abated, for her Urine was almost black, and her whole Skin was of a livid Complexion. She had carefully tried every Medicine usually prescribed in these Cases; at length, by my Advice, she came into the Neighbourhood of the Sea, that she might join the Use of *Sea Water* with *Venice Soap*.

R *Venice Soap*, three Scruples; *Salt of Hartshorn*, six Grains; *Syrup of the five opening Roots*, enough to make a Bolus, to be taken two or three Times a Day, drinking a Pint of *Sea Water* every Day early in the Morning.

Thus the Passage of the Belly was kept open; the Colic very seldom disturbed the Patient, and the natural Colour of the Urine returned; she was remarkably relieved in a most obstinate Distemper, and at length restored to Health.

C A S E XXVI.

I Remember a Case not unlike the Fifth, that was under the Care of my honoured Friend the celebrated Sir *Edward Hulse*, Bart. A Girl eleven Years old, had her Upper-Lip and Nostrils swelled ; but upon taking *Sea Water*, the Tumor disappeared ; the Disease returning next Spring, she went to consult Dr. *Hulse*, who advised her to repeat the Use of *Sea Water*, and prescribed the following Medicines, which she took in Whey while she continued in *London*, and afterwards in *Sea Water* at *Brighthelmstone*.

R Burnt Sponge, one Scruple ; Rhubarb, four Grains ; mix and make a Powder to be taken Morning and Evening, drinking after it a Draught of Whey, sweetened with Syrup of Violets.

And this was all she took with *Sea Water*, and which were repeated the second Spring after the Cure was undertaken ; thus by their Assistance, we always suppressed the Tumors, till about the thirteenth Year of her Age, she had the usual monthly Evacuation ; and from that Time, she has never been troubled with the *Ozæna*, to my Knowledge ; nor with the Tumor of the Lip.

C A S E

C A S E XXVII.

Of a dry Leprosy.

MR. ——— Captain of a Ship, a few Years past, was sent to me by my Friend the ingenious Dr. *Oldfield*, who had used his utmost Skill to conquer the growing Disease by the Help of Mercurials; but these Medicines proved of little Use, a dry Leprosy possessed both Arms as high as the Elbows, and almost an innumerable Quantity of leprous, yellow, furfaceous or branny Spots appeared all over his Body; all which I took off in less than two Months, except one Spot still remaining upon one of his Arms, when the Ship went to Sea; but I know not what happened to him afterwards. I prescribed thus:

R *Æthiops Mineral*, an Ounce and half; *Antimony perfectly levigated*, half an Ounce; *Cuttlefish-Bone*, three Drams; *Woodlice prepared* two Drams; *Conserve of Paronychia*, ten Drams; *Syrup of Violets* enough to make an *Electary*, of which take the Quantity of a Nutmeg twice a Day, drinking a Pint of Sea Water every Morning early.

I judge this Cure to be doubtful; because, I have often observed this Distemper return, 'till the Glands of the Skin had recovered their

Powers, or till the whole Habit of the Body is changed by *Sea Water*.

C A S E XXVIII.

Of cutaneous Eruptions, with the Menses suppressed.

A Young Woman unmarried complained of Eruptions upon both her Legs, which used to rise every Month in a Swelling, and spread wider in the Manner of an Erysipelas, till upon the bursting of the little Vesicles, or Blisters, there followed a great Flux of a serous or watry Humour.

This Disease appeared in the twenty-second Year of her Age: Before that Time her Menses were regular, but they ceased entirely afterwards. I attempted the Cure in the following Manner.

Take away ten Ounces of Blood.

℞ *Ipecacuanha*, twenty Grains; *Turpeth Mineral*, three Grains; *Conserve of Roses* enough to make an Emetic Bolus, to be taken once a Week.

℞ *Vegetable Ethiops*, six Drams; *Woodlice prepared*, two Drams; *Cuttlefish-Bone burnt*, two Drams; *red Coral prepared*, three Drams; *Conserve of Paronychia*, ten Drams; *Syrup of Violets* enough to make an Electary:
the

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the Quantity of a Nutmeg is to be taken twice a Day, drinking a Pint of Sea Water early every Morning.

By this Method, the true Period of the Menfes was restored ; but the Fluxion on her Legs continued violently, and the Valvulæ of the Veins were so *varicose* (swelling ready to burst) that frequently before the Eruption of the Menfes, a new Flux of Humours used to invade her Legs. At last, I advised her to bathe in the Sea, and use proper Bandages upon the affected Parts ; she went out of my Neighbourhood, and I know not what happened to her afterwards ; but I thought proper to insert this Case, chiefly because I have observed as in this Woman, so in many others, that the Menfes flowed after the Use of Vegetable Æthiops and *Sea Water* ; and especially whenever I prescribed small Doses of *Mercurius Dulcis*, to be taken over Night before the Morning's Draught of *Sea Water*.

C A S E XXIX.

Of an Erysipelatous Crisis.

AS I chiefly intended this Work to illustrate that Method in which the glandular Secretions may be directed by the *Sea Water* ; I have scarce taken any Notice of the Use

of this Remedy in certain chronic Diseases of the most stubborn Kind, but have confined my Remarks within the Bounds which I had prescribed to myself; passing over in Silence some extraordinary Instances of this Matter (that is, of the great Efficacy of *Sea Water* in Chronic Diseases.) But in these Distempers, we are principally to remember and observe in them all, at all Times, that if there are any Separations made of the Humours from the Blood, which have fallen upon any Part for a long Time; these Humours must be suffered to cleanse and discharge themselves by the old and usual Way (if it may be done without any great Inconvenience;) but if it is necessary to make some Change, and draw off the Humours another Way, we must remember, that some new Evacuation must first be effected; for if it is true, which I often mentioned, and have before endeavoured to demonstrate, *viz.* that the Physician has a certain Power and Authority in restraining and directing Nature, it follows, that wherever he sees her going wrong, and forming a Crisis by the most dangerous Way, he should take upon himself the Government of the Crisis, and direct it in a safer Way.

And nothing, in my Opinion, will procure more Honour to the Physician, than if he follows Nature as a Guide and Teacher, and observes,

serves, with the greatest Care and Judgment, all her Motions and Changes; and whenever he finds her going wrong, properly exerts his Power of directing and restraining Nature; and takes, as it were, the Reins in his Hands, of the exacerbescient Disease, and rules by his Judgment the important and hazardous Moment of the approaching Crisis, since upon this depends the Life or Death of the Patient.

If I judge right in these Things, how great Praise is due to the Art of Physic, and how much Glory and almost Worship should be given to this Method, upon which, as on a Hinge, the whole Success turns. I shall subjoin a very remarkable and recent Instance of this Matter.

A certain Person as remarkable for the Sweetness of his Manners as for his Love of Learning, was seized with an Erysipelatous Quincy; the Glands of the Uvula, the Throat and Tonsils, were inflamed, and extremely red; there was a Tumor about the Larynx, or Top of the Windpipe, and thence a Hoarseness; his Respiration was difficult and quick, which would not suffer him to lie down, his Pulse very quick and strong.

In this Disease, Nature seemed to me to be endeavouring at an internal Crisis, which, if it had broken out in the Glands of the *Trachea* or Windpipe lower down, it would have been

a Wonder if the Patient had escaped Death ; because, in this Extremity, if I had left the Disease to the Direction of Nature, an internal and fatal Crisis would certainly have ensued ; therefore, I used the utmost Endeavours to turn the Disease another Way. *First*, I ordered Bleeding, to the Quantity of fifty Ounces at proper Intervals, and a daily Purge of Glauber's Salt ; the internal Fluxion was soon suppressed, the Respiration was less quick and difficult ; nor were the Glands so red, nor the Tumor of the Tonsils so troublesome ; but the Fever, though something abated, was not entirely ceased.

Then I first perceived a certain red, erysipelatous Spot appearing on one Side of the Nostrils ; afterwards, other Spots spread on the Forehead, Cheeks, Face, and the whole Head. At the same Time his Eyes were almost hid by the Greatness of the Swelling, and the Patient was restless and uneasy at my ordering so few Medicines, but when the Danger was over that I mentioned in the first Part of the Case, and there was no Delirium, and the Fever was much abated, I judged it best to leave the Disease to the Strength of Nature ; therefore, using no Medicines till the Swelling subsided, except a few cooling Purges, I recovered the Patient ; and this Example will, I think, shew, the great

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great Consequence of a due Direction of the glandular Secretions.

C A S E XXX.

Of a moist Leprosy.

A Gentleman came to me complaining greatly of a moist Leprosy, which was grown to such a Height, that it used to emit little Drops of a Humour like little Tears upon the slightest Touch of the Finger. It was accompanied with such a violent Itching, and so troublesome, that the Patient could scarce get any Rest Night or Day. The Distemper spread downwards from the Groins over the Inside of both the Thighs; and on both Sides of the Neck; from the Ears down to the Collar-Bones, and also on the Bend of both Arms. The Disease was of long Standing and deeply rooted, so that although the troublesome Itching ceased, and the Fluxion was stopt by the Use of *Sea Water*, and the Parts affected began to cool and grow dry; yet the evacuating Tubes of the Glands were so enlarged, and the Tone of the cutaneous Glands so broke and weakened, that the Distillation of the Humours returned, after the Patient left off *Sea Water*, and flowed like a simple Gonorrhœa; but tho' not so copiously as before, and without any

any Itching; yet thro' the Debility of the Glands it continued some Time.

I persuaded him to take Lime-Water, and the antiphthific Tincture of *Etmuller*, or in their Stead, for the Sake of Variety, Medicines consisting of *Vitriolics*, and the *Peruvian Bark*; but how these Medicines operated, I cannot tell, as it is now a long Time since I heard of the Patient; but this I am sure of, that in some Diseases where the Glands are greatly weakened, that no Remedy can give Relief.

Sometimes the internal Use of Tar may perhaps shut up the open Mouths of the Glands, but this is not to be reckoned a lasting Cure; although in some of these Cases where the Glands are affected with a Distillation of Humours, I judge Tar-Water may be beneficial, because this Medicine has a digestive Quality like Turpentine, and helps to close the open Mouths of the Vessels; but, I confess, I have had very little Experience of its inward Use; but I often used to apply an Ointment of Tar outwardly with good Success; I subjoin the best Form hereof, which I have often given, with a happy Event, after I had tried all others in vain.

R Of Sheeps Suet and Tar, equal Quantity six Ounces; Powder of Elecampane Root two Drams; the inner Bark of Elder, half an Hand-

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Handful; let them boil together till the Elder Bark grows crisp, then strain it.

The affected Parts are to be anointed herewith, rubbing it in before the Fire Morning and Evening, every Day till the Eruptions are cured.

C A S E XXXI.

Of a scrophulous Caries for Rotteneſs of the Inner-Bone of the Ankle.

J*Anuary, 1748, there came to me the Beginning of this Year, a young Man, eighteen Years old, Brother to him mentioned in the Letter to Dr. Lewis; he laboured under an hereditary King's-Evil; his Pulse was quick, and his Habit hectic, he not only had ſeveral hardiſh Tumors in the Glands of the Neck, but alſo an Abſceſs on the inner Bone of the Ankle, the Heads of the Bones were ſwelled, and the Joint much larger than it ſhould be; firſt of all, the Pus was let out by a Surgeon; and againſt his other Complaints, I preſcribed as follows :*

*R Of Vegetable Æthiops, ſix Drams; burnt Sponge, three Drams; Woodlice prepared, two Drams; Æthiops mineral two Ounces; Cuttlefiſh-Bone burnt, two Drams, Conſerve of Paronychia, ten Drams; Crabs Eyes, three Drams; Coralline prepared, two Drams;
Syrup*

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Syrup of Violets enough to make an Electary, of which take the Quantity of a Nutmeg at Four in the Afternoon, and at going to Rest, drinking a Pint of Sea Water next Morning.

The young Man came to me about the Beginning of March, to shew me the Exfoliation of the Bone ; the Ulcer was entirely healed, the Joint and Heads of the Bones were restored to their natural Shape ; and the Tumors of the Glands of his Neck were dispersed by the Method before prescribed.

C A S E XXXII.

Of a large scrophulous Tumor, reaching from the Ear to the Collar-Bone.

ALtho' I mentioned an Example of this Kind before, yet as this Patient took *Sea Water* several Months, I was willing to insert the Case, that it might be a Confutation of those Persons, if there are any such, who condemn the long Use of *Sea Water*, as being too strong a Medicine.

In the mean Time, I do not offer to those who cultivate the Art of Physic, a trifling worthless Remedy, but one that is of great Value and Efficacy, and doubtless very safe, if it is directed by the Judgment of a skilful Person ; for some Objections may be made against other Medicines, especially those which undoubtedly

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doubtedly possess some extraordinary Virtues, such as, *Mercurius dulcis*, *Peruvian Bark*, *Opium* and *Steel*, all which may do good or harm, according as they are managed; but these Medicines are not for this Reason to be entirely laid aside, because they may be wrongly used by some Persons; nor will the Rashness of the Ignorant, deter the skilful Physician from using those Remedies in Diseases that require them; but to return.

The Woman in the present Case, took twenty-five Gallons of *Sea Water*, not at stated Intervals, but in one continued Course of purging, at a Pint every Morning (which makes in all 200 Pints) and while she was drinking it, she had her monthly Periods more regular and better coloured; a keener Appetite, and the strumous Swellings were dispersed; but if this vast Quantity of *Sea Water* drank, (which was followed by the Cure of the strumous Swellings, and a better State of Health than before) does not procure and demonstrate its harmless Virtues; I fear there will never be any Argument strong enough to remove the unjust Prejudices of some People*.

CASE

* In the Voyage of *W. Schouten* round the World, the Author speaking of the Inhabitants of an Island in the *South Sea*, has these Words. "Nous vîmes qu'ils be-
voient de l'Eau marine & en donnoient aussi à leur pe-
tits Enfans; chose que nous sembloit contre nature."
That is, We observed that the Inhabitants of this Island drank *Sea Water*, and likewise gave it to their children; a practice which seem'd to us contrary to Nature. This will

CASE XXXIII.

Of the Shingles.

THE RE is a very common Species of the Erysipelas, which is called by the *Greeks* *Zoster*, by the *Romans* *Zona*, and in our Country, the *Shingles*; which Distemper infests the Trunk of the Body, sometimes attacking the Breast, sometimes the Shoulders, and sometimes the Sides and Ribs; it often appears lower, and encompasses the whole Body like a Girdle; it is attended with little Blisters or Vesicles, sometimes yellowish, but oftner of a livid Colour, which are of a corroding Nature like the Herpes, or Ringworm, which Species it greatly resembles.

Marcellus takes Notice of this Distemper in the 11th Chapter. *This Medicine*, says he, *is good for Carbuncles, and St. Anthony's Fire, and for the Zona (Shingles) which the Greeks call Herpes. Scribonius says also, Chap. 100. All the before mentioned Things are good for the Zona, which the Greeks call Herpes, especially green Hemlock well pounded and laid on.*

will serve to confirm what the Author has asserted concerning the harmless Qualities of Sea Water. However I believe it is the only Instance we have of its being drank in this manner. It is to be found in p. 112 of the *Paris Edition* in 1618.

But

But this Distemper always seemed to me, to be a Kind of Scorbutic Erysipelas or *St. Anthony's Fire* inclining to a Ringworm by a degenerate Mutation.

Therefore, I treat it by a Method something different from that of the true Erysipelas; and have observed some very troublesome Accidents happen from a too hasty repelling the Eruption; I find also the vulgar Opinion, that it is mortal if it goes quite round the Body, was received by the Ancients; for *Pliny* says, there are many Kinds of the *St. Anthony's Fire*, and of these that which encompasses the Waist, which is called *Zoster*, and kills if it goes quite round the Body like a Girdle, *L. 26. C. 11.*

Nevertheless this Event of the Distemper is not always true; but in curing this Species of the *Erysipelas* two Things are chiefly to be observed; one is, that we should forward the Maturation of the little Ulcers; the other, that we should forbear Purging till the Eruption is evacuated by the Skin, then indeed the Belly is to be loosened by *Glauber's Salt*, or *Sea Water*. But I chuse to add a Case of this Distemper.

A Gentleman about fifty was seized with a Scorbutic Erysipelas, or rather with a Kind of degenerate Ringworm. The Eruptions covered the Chest and the Space under the right Nipple;

Nipple; the Heads of the Pustules were of a livid Colour; he suffered great Pain, and had a slight Fever: But when the Pustules had continued about three Days, and new ones appeared, a Surgeon thought fit to apply a Cerat to the Eruptions, which, instead of forwarding the Maturation, only encreased the Pain, and they emitted nothing but thin Ichor, and that in small Quantity. At last the greatest Part of the Eruption disappeared, and the Patient was waked out of his Sleep by a sudden Fit of an Asthma, which was very near killing him. Immediately a Surgeon was sent for who liv'd in the Neighbourhood, who bled him. After Bleeding the Fit of the Asthma was a little mitigated, but return'd soon after, when the Patient was asleep, with a very violent Attack; then I was sent for and found the Patient something easier, having left his Bed; but even then he complained of a great Pain and Tenderness of the little Ulcers that could not bear being touch'd. Upon inspecting them, I found the little Blisters were sunk and turn'd of a livid Colour, containing a sharp Ichor. The little Blisters were presently cut, and cured by red Precipitate with *Unguent. Aur.* apply'd with Cerate to keep them from moving; and I ordered a Julep with *Gascoign's* Powder to be taken when he was faint, or had a Sickness of the Stomach. Further, a pretty large Blister-

ing

ing Plaster was applied at Night, but waking as before with a *Dyspnæa*, or a Difficulty of Breathing, the Patient was obliged to get up.

The next Day we found the Blister had drawn plentifully, so that from that Time he had no fresh Attack of the *Dyspnæa*, and the Pain was not so violent; the Eruptions also began to tend towards Maturation. Then he was purg'd with Manna and *Glauber's* Salt, and took afterwards an Electary of *Æthiops Mineral* and compound Powder of Arum, &c. purging every other, or every third Day with *Sea Water*.

By these Means the Patient grew well without any Return of the Asthma, and only complain'd of a little of a Tenderness, that would not bear touching, in the Parts lately affected by the Distemper, which I observ'd generally happens in most of these Distempers; but I used to cure this Tenderness by the following Embrocation, and by the Use of Antiscorbutics.

R Of Camphire one Dram, Spirits of Garden Scurvy-Grass half a Pint; mix for an Embrocation.

The affected Parts are to be fomented and rubb'd Night and Morning, with a Sponge wetted in this Embrocation; and the Belly is to be kept open with the following Electary.

Of

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R Of Æthiops mineral two Ounces, compound Powder of Arum three Drams, Crabs Eyes and prepared Coral. of each two Drams, Syrup of Violets, enough to make an Electary. The Quantity of a Nutmeg is to be taken Morning and Evening, drinking a Pint of Sea Water every other Morning.

But it must be observed before I finish this Case, that the most convenient Time for Purgatives is generally when the Heat, Thirst and Restlessness are abated, which seldom happens till after the Eruptions are maturated. But as these Eruptions are critical, they are accompanied with more Danger if they strike inwards, than those Diseases of the Skin which are not attended with a Fever.

Lastly, Observe, that if the Disease encircles the Waist like a Girdle, then it is to be treated like the Case now mentioned. When I found any very bad Symptoms, where the Disease possessed the Chest, or any other upper Parts of the Body, I took my Measures according to the Parts affected.

C A S E XXXIV.

A Man forty-four Years old, was troubled with hard scrophulous Tumors upon both Knees, and the same scorbutic Disorder upon his right Wrist: In this Extremity, he had

had recourse to Salivation, but without any Benefit. At last he came to me, and by my Advice went to *Brighthelmstone*, where, for four Months, without any Intermission he drank a Pint of *Sea Water* every Morning.

When the Tumors began to decline he went into the Sea as a Cold Bath, and went away restor'd to his Health; but there remain'd in one of his Knees an *Anchylosis*, or Stiffness of the Joint, which was form'd before he came to me; and was the Cause of his walking with great Difficulty, leaning upon two Canes. But before he went *away* the Knee that was so stiff began to be a little flexible, insomuch that he could walk with the Help of one Cane only.

C A S E XXXV.

—S Corbutic Eruptions, which seem'd to be a Kind of moist Leprosy spread all over the Body, and wherever the Cloaths touch'd the Skin they stuck so close, that upon being pulled off the Blood follow'd in several Places. There was room to suspect this Case was not free from a Venereal Taint; and therefore the Patient had try'd Salivation tho' to no Purpose. Afterwards he came to the Sea in this Neighbourhood, and enter'd on a Cure in the following Manner.

R Of *Æthiops mineral* one Ounce, *Crabs Eyes* six Drams, *Crude Antimony prepared* two Drams,

Drams, Vegetable Æthiops two Drams, Powder of Vipers two Drams, Syrup of Violets enough to make an Electary, of which take the Quantity of a Nutmeg Morning and Evening, drinking a Pint of Sea Water early every Morning.

He took these Medicines two Months, and towards the End of the Cure I added;

R Tincture of Antimony, Balsam of Gum Guaiacum, of each equal Parts: Take 30 Drops three Times a Day.

Thus the Scorbutic Eruptions were not only cured, but also a Rheumatism which had seiz'd him after the Salivation.

C A S E XXXVI.

— **A** Dry Leprosy seiz'd on the Head and almost all the Joints, the Body being sprinkled over with Leprous Spots. This was a most troublesome Case, and which could admit of no Cure without a steady, and a long Course. The Patient continued to drink a Pint of *Sea Water* every Morning during nine Months, without any Intervals, and patiently bearing the Tedioufness of the Cure, recover'd his Health.

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CASE XXXVII.

— **A**N Erysipelas possessed both Thighs, and the Tension of the Vessels was surprizing, and the Blood was so ting'd with Bile, that upon pressing the Skin with the Finger it seemed not so much of a Saffron, as quite of a Golden Colour.

The Patient took only a Pint of *Sea Water* every Morning for seven Days, and all the Tumor being suppressed, the Patient recover'd without any other Assistance.

*D. Turner, Apothecary,
at Brighthelmstone.*

CASE XXXVIII.

Of a Scirrhus of the Liver.

ACertain Person came to me greatly complaining of a Scirrhus of the Liver. The Tumor was hard, large and uneven; his Eyes ting'd with a Suffusion of a Saffron Colour, and his Skin sprinkled with itching Eruptions. In this Extremity the Patient had recourse to the Use of *Sea Water*, by the Help of which the Jaundice and the Eruptions of the Skin were much relieved, but the Scirrhus of the Liver continued in the same State after the Use of *Sea Water* as before; and indeed I have never any Hopes of Relief from *Sea Water* in a perfect Scirrhus, as I observed before in the Patient that was shewn

to Dr. *Johnson* ; for in that Case the Disease of the Skin alone was dispersed by bathing in the Sea, and other Assistances, the grievous Disease of the Liver continuing the same. But in these Cases, which are more troublesome, from various Disorders, I have found not a little Help from Tartar Vitriolate, yet whenever it is used, Care must be taken that the Tartar Vitriolate is not made too acid ; to obviate which Inconvenience, I often use to mix with it some Salt of Tartar, rising by Degrees from small to larger Doses, according as the Stomach of the Patient would bear it.

C A S E XXXIX.

Of the American Scrophula, or King's-Evil.

A Boy entering upon his thirteenth Year, who was a Native of *Jamaica*, was sent by his Friends to *Brighthelmstone*, to be under my Care. His Neck was full of scrophulous Tumors ; his Head also was strangely overspread with Tumors resembling a kind of a *Fungus*, of a dark brown Colour. The Bottoms of the Tumors, or rather their Roots, were firmly and deeply inserted into the Pericranium, and their Heads were softish and uneven, presenting to the Eye a sort of Pits like Sponge, and bleeding upon the slightest Touch. I prescribed the Use of the Ointment of Tar before mentioned, having premised Venæsection ;

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tion ; then he continued taking an Electary of Vegetable Æthiops, together with *Sea Water* every Morning for four Months ; by this Method the Tumors, both in his Neck and Head, were entirely dispersed and healed ; yet there remained deep Scars in his Head as Signs of the Loss of Flesh by the corrosive Ulcers.

A P H O R I S M S.

NATURE is the Healer of Diseases.

2. A Physician therefore should always have his Eyes upon her as the surest Guide, and tread in her Steps.

3. Those who labour under Glandular Diseases before Years of Puberty, both Men and Women often grow well afterwards ; the last by the breaking out of monthly Purgations ; the first by the Change of the Constitution.

*This appears more clearly, because young Bachelors are often troubled with the King's Evil, who sometimes upon marrying are cured spontaneously ; the Matter that before flowed to the strumous Tumors, being now diverted to other Parts. Whar-
ton de Glandul. p. 247.*

4. If obstructed Glands in Women are not cured before the 45th Year of their Age, or thereabouts, then the Disease is renewed upon the ceasing of the Menfes.

5. But those, who are troubled with obstructed Glands, if they are put under the Care of a skilful Physician, before the Age of Puberty, may for the most Part be preserved from the Generation of Pus, by a due Treatment of the Glandular Secretions; but when they have attained the Age of Puberty, Nature generally finds some Means to help herself, till she is oppressed with the Burthen of old Age.

6. Those Glands, which do not adhere strongly to any Part, nor are painful, nor are grown hard with repeated Inflammations, and have again subsided, are chiefly curable by *Sea Water*.

7. If a morbid Gland, either of the Lungs, or of any other Part hath proceeded to Maturation, there *Sea Water* is of no Use, till the retained Matter is discharged.

8. In tumefied Glands, when the Parts have coher'd so long and so firmly, that no Force either of the Heart, or of Medicines, can open their compress'd Tubes; then the Hand of the Surgeon is the only Remedy.

9. But every Tumor, which hath not proceeded thus far, nor has any broken Vessels, is curable by a due Treatment of the Glandular Secretions.

10. When, upon making a Revulsion, the Fluxion passes from one Gland to another, then *Sea Water* is always to be used, till the superfluous

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fluorous Humours are discharged by the intestinal Glands.

11. When the Glands are no longer burthened, and hence the Tumors decrease ; then cold Friction of the Part with the Fucus, and *Sea Water* to confirm the Tone of the weak Parts, produce great Effects.

12. Towards the End of the Cure, Gall-Nuts, Peruvian Bark, and cold bathing in the Sea, may be properly prescribed.

13. When *Sea Water* does not pass off soon by Stool, it excites Thirst, till the Glandular Secretions have carried off the bituminous Salts, and the Quantity of the Humours is restored that ought to be carried to the Glands of the Throat ; and this is performed when the Effect of the *Sea Water* upon the Glands of the Intestines ceases ; this Thirst is sudden, and of short Continuance, altho' the Evacuation is large.

14. Those Women who have not their Menfes, are often cured by the Use of vegetable Æthiops and *Sea Water* ; when they are of a more thin and hot Constitution than will bear the Use of Gums and Chalybeate Medicines.

15. In those Cases, which are attended with a very great Acrimony, I think, the *Sea Water* does sometimes irritate too much ; but this may be rectified by a Milk Diet, with Absor-

bents; and then, even these Diseases are curable by *Sea Water*.

16. Tumefied Glands, by Reason of their weak Tone, are liable to fresh Attacks of the Disease.

17. The Imposthumes of the Glands, often rise again near the old Scars, if the Coat of the Gland is not entirely destroy'd or consum'd.

18. Those Glands, which are not strongly compressed by any Force, are chiefly attacked with Fluxions (because they are lax;) and perform their Offices more sluggishly.

19. Therefore the Fluxions chiefly of the Upper Lip and Nostrils, use to return again after a Cure, and the Cure in these Parts, is performed with more Trouble than in any other Parts.

20. The Diseases of the small Glands, are not so easily cured as those of the larger.

21. Many Ulcers of the Mouth and Tongue, which nearly resemble Cancers are often relieved, and sometimes also cured by *Sea Water*, and other Medicines.

22. *Sea Water* is good against Putrefaction, and restrains the Ruptures of the Vessels.

23. The Cure of Tumors in the internal Glands, is safest by *Sea Water*; and no outward Application is to be used till the Habit is changed, and the inward Glands reliev'd.

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24. Sea Water keeps the Body from being bound ; and thereby affords an easier Passage to the small Stones and Gravel, out of the Gall-Bladder.

25. Sea Water is a very safe Purge with Soap, in a curable Jaundice, because it dissolves and discusses the Tumors of the Glands of the Liver.

26. Deafness, that proceeds from a scorbutic Fluxion upon the Glands of the external Parts of the Ear, is curable by Sea Water.

27. Tumors in the Alimentary Tube are discussed by Sea Water, if they are neither imposthumated, nor scirrhus, nor cancerous, for this Remedy ought not to be used while the Parts labour under an Inflammation.

28. Leanness and a hectic Fever, when they proceed from the Defect of the alimentary Tube are commonly conquered by Sea Water.

29. Sailors by Sea Water, are freed from the returning Fits of bilious Colics, after the Inflammation is removed by bleeding and lenitive Purges.

30. When a Gland continues in a State of Inflammation, Bleeding, Nitre, lenitive Purges, and whatever may prevent Abscesses, are to be used.

31. When the Inflammation is removed, Sea Water is proper ; as it disperses Tumors, and strengthens the Tone of the weak Parts.

32. A Fever, attended with Shiverings in glandular Diseases, is generally a Sign that *Pus* is matured.

33. A tumefied Gland begins first to be dispersed in the softish Edges of the Tumors, and proceeds thence till the neighbouring Parts are restored to their first Form and Magnitude; then it may be plainly discerned, whether it is a single Gland or a Mass of Glands that are morbid; and if the Tumor seems fix'd, and adheres to the Part it lies upon, and is also pretty hard, then the cold Bath is not yet to be used.

34. But when the Gland is lessened and disjoined from the Part it lies upon, and becomes something softer to the Touch; then the first Lotion of the milder Fucus, and afterwards by Degrees the Use of the fermented Fucus, or marine Soap, is beneficial above all things; the Cure is to be finished by cold bathing in the Sea, drinking every Morning enough Sea Water to procure two or three Stools a Day, immediately upon coming out of the Sea.

35. The Glands by Reason of their lax Tone, are more subject to the Injuries arising from Plenitude than any other Parts of the Body; therefore, the Diseases of the Glands generally return, unless the Use of Sea Water, and bathing in the Sea are continued, till the Parts have recovered their due Tone. Hither may be referred

ferr'd the Aphorism of *Hippocrates*, which is also mentioned by *Celsus*, *That if a Woman has Milk without being pregnant, or having had a Child, the Menfes are deficient.*

Those Glands, which have often swelled, and have again partly subsided, and which upon new Fluxions, have been more swelled than before, such Glands do seldom entirely recover their native Form and Beauty.

37. And by Dissections, I find the Reason of this to be, that Nature, to prevent the bad Effect of the Pressure of the Glands that are growing hard, prepares for them a sort of *Stratum*, or Wrapper of Fat, upon which the Tumor may lie and rest; and this encreases the Bulk of the Part, and renders it deformed.

38. But the Glands, which have this Cover of Fat, if they are not cured by Sea Water, are nevertheless freed from the Fear of Imposthumes, and so all the Danger of a purulent hectic Fever, and a Consumption is avoided.

39. But if this Deformity of the Part that remains, gives any Uneasiness to the Patient; it may for the most Part, be taken away by the Hand of a Surgeon.

40. When by the Help of any Part, any Evacuation or Separation from the Blood hath been performed for a long Continuance, and as it were by Custom, and the Person receives no Injury thereby; then that Evacuation is not to

be turned another Way, but is rather to be continued in the same Channel, if in passing out of the Body it is not attended with much Trouble or Danger.

41. But if it is very troublesome, and likewise dangerous, it is not to be turned another Way till we have first substituted some other Evacuations in its stead, either by Issues, or Blisters, or by constant purging with Sea Water; that by these Means, a Passage may be made for the superfluous Humours to discharge themselves as usual, by the Glands of the Intestines.

42. All critical Tumors of Fevers, are to be left to the Strength of Nature; that we may see what she can perform either by way of Suppuration, or Diffipation, before we have Recourse to the Help of Sea Water; that is, if the Pus is generated in a safe Place.

43. If the Obstruction is removed, which had principally affected some Glands, it commonly attacks others, unless timely prevented by a judicious Treatment of the glandular Secretions; and this Danger in its first Rise, is often apparent to the Sight; so that it is usually observed, when an Obstruction of the pulmonary Glands is removed by Art or the Strength of Nature, that the Disease appears again afresh in the Glands of the Neck.

44. In promoting and augmenting the glandular Secretions, either by the Glands of the Mouth and Fauces with the Help of Mercury, or by the Glands of the Intestines, by the Help of Sea Water; Regard must always be had to the Strength of the Patient.

45. As Mercury is by Nature caustic, and makes an Eschar, and excites Pain, and stimulates more than Sea Water; so in slender People, by Reason of the great Evacuations it promotes, it commonly brings on a hectic Habit.

46. But if in the Use of either of these Remedies, the Pulse grows quicker than it should be, or the Appetite is lessened, or the Body wastes by Degrees, these Signs shew, that the Evacuation is greater than the Strength of the Patient will permit; then it is to be suspended for a Time, and Asses Milk, and absorbing Medicines are to be used in its stead, which yet very rarely is necessary after taking Sea Water.

47. Hot and thin Habits oftener bear without any Inconvenience Sea Water alone, when they reject hotter Medicines, altho' join'd with Sea Water.

48. But the more fleshy Habits, that have vitiated Glands, do very well bear Æthiops, Cinnabar, Antimony, and the Ashes of calcined Submarine Plants, and the like Medicines
joined

joined with Sea Water, and Sea Water is thereby greatly assisted.

49. Sea Water is endued with many and great Virtues ; but the Unskilful may make a very bad Use of it.

An APPENDIX concerning SEA-WRECK, or Quercus Marina.

SEA-Wreck is a Submarine Plant, growing upon the Rocks and Shores ; and by Reason of a certain native Soap, is so slippery, that it makes the Feet slip of those who walk upon the Rocks to which it adheres. Enquiring more curiously into this Matter, I found the Plant about the End of *July* bursting its Vesicles or Pods, and pouring out a soapy Juice upon the Rocks and Shores. About *Autumn* the Plant shoots afresh from the Branches of the Year past, at every flowing of the Tide, the Branches float in the Water by the Help of certain Vesicles, or little Bladders, which are filled with Air for this Purpose ; and at every Reflux of the Tide being left by the Water, they are dried upon the Rocks and Shores : And the Plant continues in this State, till about the vernal Equinox, when the Shores are warmed by the Sun's Heat at every ebbing of the Tide ; then the Vegetation is mostly promoted, and the Vesicles or Pods begin to swell with a certain

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tain foapy Liquor ; and this thickens by Degrees from *March* to *July*, till at last, as before mentioned, the Vesicles burst, and the Vegetation proceeds in the Method aforesaid.

From hence we may infer, that by how much nearer the Plant is arrived to a State of the most perfect Maturity, by so much the more its Juice may be diluted with Sea Water.

In the Cure of morbid Glands, I found there was need of some slippery Soap, which being mixt with Sea Water, was fit to discuss Tumors ; and indeed, *Pliny's* Decoction of Frogs is used more successfully than the common Plaster of Frogs ; but this Remedy was not always to be had, and indeed was none of the cleanliest ; therefore, I ordered the Tumors to be rubbed with this Plant, newly taken from the Rocks, and dipt in its own Juice, and I found this of great Benefit in the Decline of the Distemper.

Moreover, as it abounds chiefly with a certain native Soap and Salt, I gave it inwardly in Powder, to the Quantity of one Dram ; I observed the Taste of it was somewhat like Oysters, and that a large Dose of it was nauseous to the Stomach. Afterwards I calcined it in the open Air, and found it converted into a very black *Æthiops* ; which in this Work, I have so often called the *VEGETABLE ÆTHIOPS*. The Plant being reduced to Ashes, contains a bitu-

bituminous burnt Sea Salt, an Alcaline sulphureous Salt, together with its native Soap, after the Water is dried away by Fire; and this I used successfully instead of burnt Sponge, and I think it far exceeds it in Virtue.

I also used the *Æthiops* of the same Plant for a Dentifrice, to help the Looseness of the Gums, and to clean foul Teeth; this happily answer'd my Expectation, and gave me in this Instance, a great and fresh Proof of its deterging Quality.

EXPERIMENT I.

First, I tried to hasten the Growth of the Plant, that I might thereby sooner obtain its soapy Juice. Therefore, I gathered some Vesicles or Pods in the Beginning of *March*, and poured an equal Quantity of Sea Water upon them; then I placed them in a Window which look'd to the West, and was warm'd by a Fire every Day.

At the End of a Week I found the Pods turgid and full of its proper Juice, but it was thinner and paler than it used to be in the Summer Months; yet I anointed my Hands with it. It deterged the Skin very greatly, and render'd it smooth and soft; but did not stimulate so strongly as when it is prepared in the Summer Months by Fermentation with Sea Water. Therefore, in those Cases which do not require a great Stimulus, it is both a mild Lotion, and an extraordinary *Fucus*.

Then

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Then I also made a Liniment of that and Cadmia levigated, and laid with a Pencil upon the Eyelids of certain Patients two or three Times a Day, and ordered them at the same Time to wash their Eyes Morning and Evening with Sea Water ; this Method preserved the Parts affected free from Excoriation, and dried up the Fluxion of the Humours, observing to purge daily with Sea Water ; then also, I gave inwardly the Juice squeezed out of the Vesicles or Pods, against sharp, scorbutic Fluxions upon the internal Glands. I prescrib'd it, instead of Snails, with Cream, drinking after it, either Eryngiated or Asses Milk.

It sat easy upon the Stomach, and unless I am mistaken, it answered my purpose. How far this Medicine may be useful, I leave to be confirmed by Experiments of other Persons.

Thus far I have considered this Plant, before its Fermentation with Sea Water ; now I shall take Notice of its various Changes, when it is more stimulating and penetrating.

EXPERIMENT II.

THAT I might have the soapy Juice of this Plant at Hand after *July*, I put some of the Vesicles or Pods perfectly ripe into glass Vessels ; then I poured equal Parts of Sea Water ; in ten Days Time the Vesicles
gene-

generally burst ; a certain Mucilage flow'd out about the Thickness of new Honey ; I applied it outwardly in this State also, and found it more deterfive than before.

EXPERIMENT III.

THE same Juice after some Months, became thinner and foetid ; but even then, it was more penetrating and stimulated the Palm of the Hand with a pricking Sense of the Nerves.

EXPERIMENT IV.

THEN I tried how far that deterging Quality might be increased by Fermentation ; for this purpose I kept a Vessel in the Window near the Fire, from *July* to the following *March* ; then the Juice became thinner, and also so sharp, that it penetrated the Skin in an Instant, and excited a Sense of slight pricking, and was as absterfive as Soap-Lees ; for it made the Ends of the Fingers wrinkled, and the Tips of the Nails palish ; the foetid Smell abated, but to take it entirely away, I put to it a little *Hungary-Water* ; then, because I remembered that the Ancients order'd a warm Fomentation of Sea-water in paralytic Disorders, I tried an Embrocation

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brocation of this Medicine in the same Cases; and am strongly perswaded, it was very beneficial; I also apply'd the same successively in the Decline of Tumors of the Glands, for it discusses excellently well.

EXPERIMENT V.

I HEATED this Juice, then I drew some Lines upon Paper with Violets fresh gathered; the Colour of the Violets was thereby turn'd green, therefore, by Fermentation it becomes an Alkali.

EXPERIMENT VI.

THEN I evaporated two Spoonfuls of the same Juice after Fermentation it afforded a little more than a Scruple of an acrid pungent Salt.

EXPERIMENT VII.

OF the Plant dried with its Vesicles or Pods and burnt in the open Air, is made the Salt Æthiops.

These are the Remarks which I have made upon the Use of this Plant; it remains that I should observe, that there are two Kinds; of which, the smooth Sort without Vesicles is fittest to rub Tumors.

The

The other Medicines which I take out of the Sea, are *Sea-Chalk*, *Coral*, *Coralline*, *Pumice-Stone*, *Cuttlefish-bone*, and the like; all which correct Acidities in the first Passages, for their Qualities are entirely chang'd by the Salts, when they give a different Shape to these particles; thus *Coral* dissolved in *Acids*, is astringent and binding; given by itself, it is rather aperient and breaks the Points of *Acids*; thus also distill'd *Vinegar* extracts the opening Tincture of *Steel*. Vid. collectan. chemic. Leyden. p. 286.

Of MADREPORE.

AS I mentioned before the Use of a Lime made of Shells, I have inserted a Print of *Madrepore* fronting the first Page, which Figure I took from the Voyages of Father *Labat*. There are several Species of this Plant, which is to be plac'd in the Class of Corals. If it is levigated upon a *Porphyry* and given inwardly, it is powerful in correcting Acidities, and suppressing Fluxes of the Belly.

But when it is calcined, it becomes a great *Alkali*; and its Salts received into the Blood, do not only sweeten it, but also cleanse and purge off Obstructions of the Glands. But every Calx of this Kind should

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should be newly made and kept dry. I could subjoin something more concerning the Virtues of other submarine Plants, or submarine Medicines, but I chuse to defer it till I have further considered the Matter, and have had their Virtues confirm'd by more Experiments.

Three LETTERS from the celebrated RICHARD FREWIN, EDWARD WILMOT, *and* WILLIAM LEWIS, *M. D. D.*

LETTER. I.

From Dr. Frewin, *to* Dr. Ruffel.

S I R,

WHEN you was at *Oxford* sometime ago, and consulted with me and Doctor *Lewis* about your Son, we often discoursed upon Medicinal Subjects, and especially on certain Medicines that were less known, or little understood. Amongst these Discourses, we mentioned *Sea Water*, which you yourself had used long ago in the Cure of the Scurvy, and many Diseases arising

sing from Tumors of the Glands; and as you intended to write a full Dissertation upon *Sea Water*, you desir'd me to communicate to you any Remarks I had made upon the Use of it, I therefore perform my Promise in sending at length the following Case.

August 28, 1744. The Wife of a Clergyman, living in the Country, came to me, who was Mother of many Children: She was of a very robust Constitution, and full of Blood; her Hair black; her Face red, inclining to yellow; her Eyes were ting'd with a Jaundice Colour; her Pulse strong; all which were manifest Tokens of a sanguine Constitution inclining to a bilious Temperament: She complain'd of a Colic Pain and frequent Returns of the Symptoms of a Jaundice. When she was free from these Symptoms she had a tolerable Appetite, without any Inclination to vomit, no Nausea after eating, or Inflation of the Belly, nor any Pains in the Bowels. But upon the Attack of the Colic her Pulse was strong and quick, her Tongue rough and yellowish, her Body bound and the Fæces whitish, her Urine was thick and sometimes red, and oftener of a Saffron Colour. When therefore I had consider'd that this fix'd and settled Pain chiefly continu'd in the right *Hyponchondrium*, and
never

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never moving towards the Navel, nor near the Kidneys, nor to the left Side, and that it was encreased by Riding and Exercise, or any vehement Motion; upon this I judged the Disease ow'd its Rise and increase not to any acrid Matter, or to a Redundancy of the bilious Humour, but to Stones, either in the biliary Ducts of the Liver, or in the Gall-Bladder. Therefore to prevent an Inflammation or Fever that might happen by the Continuance of the Pain, I order'd her to bleed in the Arm twelve Oncens.

The Surface of the Blood was very red and bright, the lower Part quite black, the Serum greenish, and evidently ting'd with the Gall; therefore the Patient took a Bolus this Night compos'd of

Quicksilver Alcalifat. half a Dram, Sperma Ceti twelve Grains, Species Diambrae without Perfumes three Grains, Conserve of Marsh Mallow-Flowers half a Scruple, Syrup of Violets, enough to make a Bolus.

And next Moring this Draught.

R Of the best Manna one Ounce, Glauber's Salt three Drams. Dissolve them in two Ounces and a half of Milk-Water and strain it, then add Syrup of Buckthorn one Ounce, Elixir Salutis half an Ounce, compound Spirit of Lavendar one Dram. Mix them

them for a Draught to be taken early in the Morning sleeping after it if possible.

I order'd all her Stools to be diluted with warm Water and strain'd thro' a Sieve.

August 29, she had six Stools, and there was found in the Sieve above an hundred Stones of various Shapes and Sizes, which were outwardly of a dark brown Colour, such as are describ'd in *Med. Syst.* Tom. 4 Part, 2. sect. 2. cap. 3. by *Hoffman*, who is by much the best Writer of all foreign Physicians.

The Purge having operated in this manner, and with this Event, because the Patient seem'd to be a little faint, I prescrib'd this Medicine to be taken going to Rest.

R Salt of *Wormwood* twenty five Grains, Juice of *Lemons* six Drams, or enough to saturate the Salt, small *Cinnamon-water* one Ounce, *Nephritic Water* half an Ounce, Syrup of *Saffron* three Drams, Tincture of *Species Diambrae* twenty Drops, *Crabs Eyes* prepared fifteen Grains, *Sal Prunellae* ten Grains. Mix them for a Draught to be taken going to the Rest.

Then that I might help both the Defect of the Liver and the Colic Pain, I prescrib'd the following.

R Roots of *Parsly* and *Asparagus*, fresh and cut in Pieces, of each half an Ounce. Pour upon

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upon these twenty Ounces of boiling Spring Water, and let it infuse a quarter of an Hour in a glazed Earthen Vessel covered. To thirteen Ounces of the strained and settled Liquor add Nephritic Water one Ounce, Syrup of the five opening Roots, and Syrup of Violets, of each half an Ounce, Sal Prunellæ and Diuretic Salt, of each one Dram. Take four Ounces of this Infusion warm three times in 24 Hours.

℞ *Venice Soap and Diuretic Salt, of each half a Dram. To the Solution, in ten Ounces of Fennel-Water, add small Cinnamon Water, and Nephritic Water, of each half an Ounce, Syrup of the five opening Roots three Drams. Make them into a Draught to be taken early in the Morning, and at five in the Afternoon, and going to Rest.*

Within three Days the Jaundice disappear'd; but because the Colic Pain soon after return'd, the 2d and 13th Day of September the Purge was repeated, as before prescrib'd, and with the same Success, for the Fæces being wash'd, there was found a great many Stones like those before mention'd.

She staid at *Oxford*, and continued the Use of these Medicines five Weeks, for the most part free from the Jaundice, and the Colic Pain, and almost every Day voided some Stones by Stool.

When

When she was upon her Return home, I advised her to go to *Bath* for the sake of Bathing and Drinking the Water, by the joint help of which I had observ'd many Persons have recovered their Health in these kind of Diseases; but as her Domestic Affairs would not permit her to take this Journey, I advised her not to use the Medicines so often, but to drink half a Pint of *Sea-Water* every Morning at five o'Clock; and afterwards to sleep an Hour or two, to take off or avoid the Thirst which is commonly troublesome after drinking *Sea-Water*. Some Months after I was inform'd that this Woman had voided above three hundred Stones and continued in Health, and free from Pain; and being with Child; about two Years afterwards, she was brought to bed of a strong healthy Child; and she is still alive and well, and free from the Jaundice, and very rarely troubled with the Colic Pain.

I remember a Man, before I was acquainted with the Virtues of *Sea-Water*, whose Bowels produced such a large Quantity of bilious Matter that was converted into Stones, that he felt himself as it were inwardly bound with Iron Chain, and always complain'd of this to his Physicians; and as I often inspected his Stools, they look'd like Bits of Brickbats wrapt up in the Fæces.

I have

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I have known likewise, that Stones have been form'd in the Gall-Bladder so large that they could by no means pass through the Cystic Duct.

A Gentlewoman of a good Family, remarkable for the Gifts of Fortune, was very often tormented for many Years with a Colic Pain, and had had the Advice of the most eminent Physicians of *London*, and went often to *Bath* in the Spring, and to *Tunbridge* in Autumn, to drink the Waters. And in the Years 1740 and 41, before Summer began she came to *Bath*, and committed her Health to my Care. She was then seldom and slightly affected with this Complaint; but drinking the *Bath Water*, and bathing in the usual Manner, she constantly found Relief. In the Year 1744, where I then was the 13th of *June*, being at her House in *Buckinghamshire*, she was suddenly taken with the sharpest Convulsions of the Bowels, attended with the most racking Pain, and being seiz'd with a very acute Fever and an Inflammation of the Bowels, she died in seven Days; at last the Anatomical Knife discover'd the Cause of her Distemper; for the Body being open'd, besides an Abscess in the Liver, there was found in the Gall-Bladder six blackish Stones, almost growing together, each as big as a Nutmeg. In this Patient there never appear'd any Symptoms of the Jaundice. I have neither Leisure nor Skill to discover what may

be the State of the Blood, or what the Condition of the Liver that generates such a Quantity of Bile, or that disposes the Body to form these kind of Stones: My Design is only to observe what great Power the daily drinking of Sea-Water has in curing these Distempers, join'd with Remedies compos'd of Quicksilver and Soap.

There is also another Case that is worthy of Notice, in which I lately experienced Sea-Water to be extreamly beneficial.

A Youth of Sixteen, a Scholar of *Winchester-School*, of a slender and lax Habit, growing suddenly tall, and therefore weak, loving the Water, and swimming well, last Summer used to go into the neighbouring River twice or thrice a Day, and swim in it too long, and often came home faint and shivering with Cold.

About the End of the Summer he complain'd to the Apothecary of a Dryness in his Belly, and of being unusually bound; upon which he took a purging Draught and an opening Elettuary, by the Use of which the Symptoms immediately disappear'd, and the Lad thought himself pretty well.

About the Middle of *September*, 1748, his School-fellows observ'd him making strange Motions with his Hands and Arms, and his Eyes staring and distorted, his Head lying sometimes upon one Shoulder, and sometimes on the other while speaking, and other ridiculous Mo-

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Motions of his Limbs, such as *Sydenham* describes in the Disease called *St. Vitus's Dance*. At last he was taken with a Lameness of his left Leg, so that he could scarce cross his Bed-chamber without the Help of his School-fellows.

The most eminent Dr. *Mead* rightly ascribes these Symptoms rather to a Relaxation than to a Distention of the Nerves; and indeed in this Youth the Muscles of the Tongue and Pharynx, or upper Part of the Gullet, were so relax'd that he could scarcely speak any Words articulately, or swallow any Food. As he lay in Bed his Tongue came out beyond his Teeth, and the Spittle flow'd out continually. In this State of Things the Patient was under the Care of Doctor *Bowles* of *Winchester*, who order'd him to be twice bled at stated Intervals, and four times purg'd, and prescrib'd him Remedies compos'd of the *Cordial Confection*, *Powder of Gutteta*, *Caster*, and *volatile Salt of Amber*, with a *Decoction of Peruvian Bark*, and the like Medicines, such as are recommended in these kind of Distempers by the most approv'd Authors: He took Care also to have Blisters applied to the Nape of his Neck and Wrists.

About the Beginning of *November*, when Things grew worse I was consult'd: Then I advis'd bleeding eight or ten Ounces on the 7th of *November*; that on the eighth the Purge should be repeated, because the new Moon was

the next Day; for the eminent Dr. *Mead*, and other skilful Authors in Physic, have rightly observed, that these kind of Diseases grow worse about that Time. I also desir'd the Patient might take an Electary twice a Day, composed of *Peruvian Bark*, the great wild *Valerian Root*, and *Cinnabar of Antimony*. I further advised to send him immediately to *Southampton*, as well for the Convenience of drinking the Sea-Water, as for going into the Sea instead of a *Cold-bath*. Being carry'd thither he was put into the Sea the 17th of *November*, and afterwards every other Day.

November 23. After the fourth Time of going into the Sea, he was much better, although this Night being full Moon he grew a little worse.

November 24. This Night and every Day after, he drank half a Pint of Sea-Water, either going to Bed or early in the Morning, and bath'd in the Sea every Day.

Nov. 27. Every thing being chang'd for the better, the odd Motions of his Hands and Fingers being much less frequent, and the Use of his Tongue freer; being tir'd of taking Physic, I perswaded him to depend entirely upon drinking Sea-Water and Bathing therein, laying aside all other Medicines.

Nov. 30. Within three Days his Appetite return'd, his Limbs were stronger, and his Words pronounced more articulately.

De-

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December 12. He came from Bathing daily brisker and stronger, and readier in expressing his Words. Neither on the 9th Day of the Month, though the new Moon was at Hand, had he any Convulsions or Trembling, or the least Increase in any Symptom of his Distemper. Therefore, I order'd him to continue in the same Method till he had recover'd his perfect Health.

Jan. 11. Being inform'd by a Letter, that the Youth was intirely recover'd, I advis'd him to return to his former Method of Living by Degrees, that is to say, First, That he should bath in the Sea three Times, then twice, and then only once a Week; and should drink the Sea-Water not so often, and in less Quantity, or only every other Night or Morning.

Feb. 8. The Patient came to *Oxford*, healthy and strong, to see his Friends, and take some Recreation, intending soon to return to *Winchester*.

Worthy Sir, you may make what Use you please of this Letter, but proceed to illustrate with your penetrating Judgment, and establish with the Authority of your Experience, the Art of Physic, in which you have long labour'd with the greatest Industry.

Oxford, February 24th, 1748-9.

The Answer of Dr. RUSSEL to Dr. FREWIN.

S I R,

YOU have laid me under the highest Obligations for enabling me to adorn this Treatise with your judicious Thoughts, which you have so freely and candidly communicated, in which you have acted the Part of a very singular Friend. But perhaps you are ignorant how much it is owing to you and your Example, that was in a Manner my Guide, that I have so diligently enquir'd into the Way and Method by which the glandular Secretions ought to be treated; and will hardly suspect that you laid the first Foundation of these Enquiries. For when I read the Letters of the very sagacious and learned Men which Dr. *Friend* has annex'd to his Commentary on Fevers, amongst which your Name also is seen, it appear'd plainly, that in curing that Fever of the Small-Pox, which comes on upon the Decline of the Disease, you all with one Consent, plac'd your greatest Hopes in carrying off the morbid Matter, by the intestinal Glands; and that Nature often effects this by the Help of a Looseness, as is observ'd in the same Work by the most celebrated Dr. *Mead*, to whom you know the greatest Regard is due, not only from us who profess the Art of Physic, but from all Lovers of Learning in General, for his extraordinary Cultivation and Patronage of the politer Arts.

There-

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Therefore, as I saw the most prudent Physicians were agreed in this Opinion, and were under no Fear that the morbid Matter should return into the Blood, which generally perplex'd Physicians; and as I observ'd, that by leaving the common and beaten Path, they had acquir'd immortal Honour; and had done singular Service to Mankind; I was no longer dubious, but concluded, that the same Secretion, continued a long Time by the intestinal Glands, would most certainly prove beneficial in most chronical Cases, when any Distempers have a long Time possess'd the Glands, or any laxer Parts of the Body. For, if a rosinous Purge may be given without Danger in an eruptive Fever, I readily concluded, that a saline Purge might be given in the same Manner, when the Disease was neither acute, nor attended with any Fever; but in the mean Time, it appear'd to me extremely difficult, how to procure such a Medicine that should do the Office both of a Purge and an Alterative, and which should conduce both to cleanse the obstructed Tubes, and carry off Redundancies, and likewise strengthen the Tone of the Fibres. Therefore, about the Year 1724, when I had again read those Letters of *treating the glandular Secretions*, and of the various Medicines which may be applied to various Parts; I drew out a Sort of a Sketch, and sent it to my very learned Friend *B. S. Albinus*, at that Time Professor at *Leyden*; but as this was a rough

and imperfect Piece, and not worthy this Age, and the Experience which I have obtain'd in the Space of more Years, I thought proper to publish something more perfect upon this Subject; especially because, having consider'd the Use of Sea-Water, I seem'd at length to have found a Remedy, which would do the Work propos'd, without any Danger.

And I was confirm'd in this Opinion, by the Letters of Dr. *Friend*, that Light of your University; I mean, his Remarks on intestinal Excretion, and purging in an Erysipelas of the Head; and I also have seen this Disease happily treated, with the Help of Glauber's Salt; so that if I had any Scruples remaining, they were all removed by this Consideration.

And being convinced by these Arguments, I thought it plainly appear'd, that Nature had form'd these Passages and Excretions, that they might be subject to the Command of the Physician, more than all the rest; and that whenever it was requisite for Health, they might afford a salutary Discharge to all superfluous and noxious Humours.

Having premis'd these Things, there is still something remaining besides what I have said before in this Work, concerning which, I should take some Notice; especially as you gave me an Opportunity of seeing its Effects in the elegant Case you sent of St. *Vitus's* Dance; I mean, those Things which it is necessary to observe

serve in using the Cold Bath ; and I do this the more willingly, because the Use of Sea-Water either internal, or external, is not of such a Nature as to do neither good nor harm ; but we are to judge as the celebrated *Mead* has somewhere observ'd, that in all Things which our Art contains, there is nothing that does good, but what may also do harm. I shall write to you upon this Subject, without confining myself to any particular Order or Rules of writing, not intending to give an accurate Account of the Cold Bath, but shall set down every Thing, as it occurs to my Memory. In the first Place therefore, it is to be noted, that neither the Cold, nor Hot Bath, is to be enter'd into after eating or drinking freely ; which the Ancients avoided so carefully, that they judg'd it necessary to abstain both from eating and drinking, for a small Time after coming out of the Hot-Bath ; but in the Use of the Cold-Bath, a little Draught of Sea-Water is convenient immediately upon coming out of the Sea ; because, by purging the Belly, it prevents the Blood from flying into the Head, and preserves the Patient free from the Head-ach ; neither if this Method is observ'd does the Nose bleed, which otherwise does sometimes happen ; nor are the Glands of the Neck subject to swelling, as they are sometimes when the Patient uses the Cold-Bath too soon.

Moreover a perfect Repose of the Body, and Calmness of the Mind, is to be observ'd, before

the Use of the Cold Bath ; and all Exercise of the Parts affected must be forborn, that the Fibres by these Means, when they contract themselves, may have the greater Force to overcome any Obstruction ; which if they are tired before with any Labour, is not so easily affected, and I give the greater Caution about this, both because I have seen some Persons bathe after hunting, and other rural Exercises without any Regard to Time or Circumstances ; and also, because I have seen others err in a different Way ; for as Sea Water greatly conduces to strengthen the debilitated Power of the Fibres, if it is given after due Evacuations, and after the Obstructions are something relieved by internal Remedies ; so I have seen the same Water do Harm in any Plentitude, or any troublesome Obstruction of the Tubes, that still continued painful ; for in these Cases, the Solids are distended, and thereby more weakened ; because they strive to throw out that with a great Force which in this State of Things can by no Means be ejected.

And I observ'd this more than once, and sometimes in hard Tumors upon the Joint of the Knee, when I have order'd cold Water to be pour'd upon the Part affected, and the Cold Bath to be used, though the Obstructions were diminish'd before by internal Remedies, even here by a too hasty Use of the Bath, these Cases seem'd to grow worse. But

But altho' I despair'd of those Patients, as being incurable ; yet after repeated Fits of intermitting Fevers, which shew'd that the System of the Glands had undergone a great Change, and when those Viscidities, which had been lodg'd a long Time upon the Part affected, by some Means were so dispos'd, that they might be mov'd ; then I have seen even such Patients easily cur'd by Sea Water, and the Cold Bath.

Then the greatest Care is to be taken, to know whether the Bowels are sound, or not, before the Use of the Bath ; for if the Lungs, the Liver, the Pancreas, the Spleen, or the Glands of the Mesentery, labour under any Disease, or Putrefaction, or Scirrhus, then the Bath will do harm ; for altho' *Celsus* advises swimming in the Summer for the Jaundice ; and *Antonius Musa* also (who first instituted and promoted cold Bathing) prescrib'd the Cold Bath for an Obstruction of the Liver, which afflicted *Augustus Cæsar* after his Journey to *Spain*, as *Suetonius* relates ; yet they who give an Account of the Emperor's Case, differ so much in their Relations, that we can draw no Inferences from hence for Practice.

But I have very often found Sea Water serviceable in the Jaundice, and *Celsus* mentions Salt Water, and salted Wines, as the chief Remedies in the Jaundice ; but indeed, I never order'd the Bathing till the Obstructions of the Liver were partly remov'd. There is also another

another Kind of Cold Bath, when the Water falls, or is pour'd upon the Part affected; but this also increases the Strength of the Disease, if proper Care has not been taken to remove Obstructions; because it occasions frequent Vibrations of the Nerves, and Contractions of the Membranes; but where it is necessary before the Use of the Bath, to take off the Burden on the morbid Part, and make a Revulsion, I have for the most Part found Emetics beneficial; and chiefly so in Diseases of the uterine Glands, and of the Joints. Bathing in the Sea is generally to be used early in a Morning, because it is not so cold as some Springs; and in most Cases, I order a little Draught of Sea Water immediately after coming out of the Sea, which generally passes off soon, and makes the Patient chearful and procures a good Appetite; sometimes instead of pouring *Sea-Water* upon the morbid Parts, I prescribe a slight Friction with Sea-Wreck, without Vesicles, or Pods newly taken from the Rocks; and sometimes in Palsies, I advise a Fomentation of warm *Sea-Water*, and rubbing of the Part affected with a Flesh-brush, to open the Obstruction of the Part, till by a general Evacuation, the Patient is prepar'd for the *Bath*.

But Paralytic Persons are very much fatigu'd, and their Spirits much depress'd, if they bathe in the Heat of the Day, as they bear Heat less patiently than Cold; and
how

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how much the cold Weather relieves their Disorder, appears from hence, that in the severest Cold of Winter, they walk better than when the Air is hot and moist. And though the Vapours of the Sea, which are exhal'd by the Heat of the Sun, are very plentiful, yet they are moist, and relaxing, and depriv'd of that Salt, which gives a firm Tone to the Solids; for there is little or no marine Salt exhal'd by the Heat of the Sun, which is plain from an Experiment delivered down to us by the Ancients; for the Seamen of those Days used to obtain a very grateful, though small Supply of fresh Water by this Means. *Seamen often suffer for want of sweet Water, we shall therefore direct them how to find this Supply; Fleeces of Wool spread about the Ship, grow moist with the receiving the Vapours of the Sea, out of which sweet Water may be squeez'd.* Plin. Nat. Hist. L. 31. C. 6.

And in paralytic Cases, the Method of purging and the Cold Bath, to the best of my Knowledge, is to be preferr'd before any other Means; for this Disease seems to arise from a Relaxation of the Tone of the Parts; and therefore when they are oppress'd with Heat, the Evacuation by the Skin is increas'd, the animal Spirits are dispers'd, and there is a more plentiful Discharge of Urine; the Consequence of which is a Constipation of the Belly, which is sometimes so troublesome, that for several
Days

Days together, they have no Discharge by Stool, without some Assistance; therefore, if in these Cases *Sea-Water* is rejected, it is absolutely necessary to take another Purge; and indeed, if the Evacuation procur'd by purging is ten times greater than what is naturally usual, yet as the Annotator on *Sanctorius* observes, it does not weaken the Patient more than if the Evacuation by Perspiration was doubled; but cold *Sea-Water* renders the whole Habit healthy and strong, and though perhaps it will not entirely cure a Palsy; yet with proper Evacuations premis'd, joined with internal Remedies, it is generally, as I think, more successful than any other Method. It is not improbable that the Use of the *Sea-Bath*, after a Fomentation with warm *Sea-Water* might come into your Mind when you lived at *Bath*.

For, as I have heard many Years since, from my learned Friend Dr. *Oliver* of *Bath*, the warm Bath in order to attenuate and dissipate the Humours, is commonly and successfully used there before the Cold; and unless I am mistaken, I have before observ'd, that if *Sea-Water* and cold Bathing do not succeed, I always resolv'd upon a contrary Method; and that I have often cur'd Diseases, that had before withstood all the Power of *Sea-Water*, and the *Sea Bath*, after using a Warm Bath, and Asses-Milk.

I have further observ'd, in my Account of *Sea-Water*, the Use thereof in Diseases of
the

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the uterine Glands; but if we would know the Benefit of cold Bathing in the Sea, as well in melancholly Madnefs, as also in the Bite of a mad Dog; as also in Impotency arising from the immoderate Use of Venery, and how greatly it helps all the glandular Secretions; the Writers of our Art are to be consulted, the greatest Part of which, extol its Virtues with the highest Praises. Lastly, it is to be observ'd, that the Sea Bath is so successfully us'd in scorbutic, and almost all cutaneous Eruptions, not only because the Salts with which it is saturated do greatly deterge, and cleanse the Skin better than common Water; but because it penetrates through the Skin into the Glands, and mingles with their Juices, and wonderfully purges off the Phlegm, and Viscidities that obstruct the Tubes of the Glands, and thus removes the inward Cause of the Disease, as well as the outward Foulness of the Skin; and here most learned Sir, I shall make an End of Writing, lest what I send you, should look more like a Book than a Letter, and should think myself extremely happy, if you, who are a principal Person, and as it were, the Master of the Art of Physic, in the most flourishing University, should approve my Way of reasoning. *I am, &c.*

A Letter from Dr. WILMOT to Dr. RUSSEL.

S I R,

I Delay'd writing so long on purpose, that I might have some Proofs, how beneficial Sea Water

Water is in the King's Evil, either being drank, or applied outwardly, and that having experienced its Virtues, I might communicate my Observations to you according to your Desire. My Wishes are at length accomplish'd.

C A S E I.

A Woman about Forty, in every other Respect healthful, was subject from her 15th Year to a freer Flux of the Menfes, but upon its decreasing at this Time, she was taken with such a violent itching of the *Pudenda*, that she could scarce ever refrain from scratching, and lay awake whole Nights, unless she took Opium; which Sense of itching continued to increase every Day; to compleat the Misfortune, a Heat and Hardness about the *Pudenda* miserably afflicted the unhappy Patient; she was a modest Matron, and utterly abhorred the Thoughts of being examined by a Surgeon, but upon my Advice she sent for a Midwife, who found many hard Tubercles approaching, the Size of Peas, lying hid in the Parts beforementioned.

As this was the Circumstance, and that neither Medicines of Sulphur or Mercury, nor the Waters of *Holt*, *Scarborough*, nor *Cheltenham*, which she drank several Weeks every Year, could conquer, or even mitigate this troublesome Disease, I had Recourse to Sea Water, the singular Efficacy of which, in opening Obstructions of the Glands, I was formerly acquainted with from your Accounts, and now from my own Experience

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ence. I ordered her to bathe in the Sea every Morning, and to drink half a Pint of Sea Water immediately after bathing, and the same Quantity an Hour after; and to foment the Parts affected frequently every Day with Sea Water, and to apply a Linen Cloth wetted with the same Water, warm within the Parts at Night, keeping it there all Night.

In about six Weeks Time, the Woman began to recover, the Itching and Heat ceas'd, what before was hard and rough, grew soft and smooth, and the Tubercles entirely disappear'd in about eighteen Weeks more; and together with these, which deserves particular Notice, another Tumor disappeared, which was certainly of the same Kind, that had long appeared very ugly under her Chin.

CASE II.

A Young Lady of noble Birth, just entering upon her seventeenth Year, was troubled to that Degree with hard Swellings continually rising near the Breasts, under the Ears, and in other Parts of the Neck, so that she had no Rest from the Disease, and no End of taking Physic.

In one Place, you might see a Knot rising, growing, suppurating, and extremely difficult to heal; and being scarcely covered with a Skin, a new Knot would rise in another Place, and begin to suppurate, giving a melancholy Example of others to come after.

When Things were in this Situation, and the

the Disease had long exercised the Lady's Patience, nor any Relief could be obtain'd from Calomel, Mercury, Precipitate *per se*, and other Mercurial Medicines; when burnt Sponge, Coralline, Woodlice, Lime-water, with *Boyle's* Infusion of *Paronychia*, joined to the Use of purging Waters, were of little Service, and though they gave some small Relief, were of no Use to disperse and intirely root out the Disease; upon consulting with Mr. *Ranby* the King's chief Surgeon, by far the most excellent in his Art, we resolved upon a new Method of Cure.

We order'd her to go into the Sea every Morning, and to drink as much Water thereof as would give two or three Stools a Day, and to wash the Ulcers and the harden'd Glands frequently with the same Water warm; by this Method of Cure, continued about two Months, the Ulcers were healed up, and some of the strumous Knots being intirely dispersed, and the rest mollify'd, the Lady recovered her former Health; she returned to Town, and having experienced the salutary Effects of this Remedy, by our Advice she so happily continued all the next Winter to drink the Sea-water every Day, washing with it warm, that she enjoy'd her Health entirely free from her old strumous Disorder, or from any new Attacks thereof.

C A S E III.

A Young Lady of the first Rank, about six Years old, was troubled with a strumous Swell-

Swelling upon her Upper-Lip, the Axillary Glands were increased in Bulk, and grown hard; her Abdomen was unequally swell'd, with hard Knots here and there, which yielded not to the Touch; to this was join'd a dry Cough, without spitting, and a little Difficulty of breathing, especially at Night.

These plain stumous Signs in the Lip, and the axillary Glands, gave me strong Suspicion, that the Glands of the Lungs and Mesentery, were infected with the same Taint, and were swell'd and grown hard, and that without timely Assistance there was Danger of their forming a Pus, which would produce a Consumption of the Lungs, and an Atrophy, or wasting away of the Body.

After bleeding, I ordered five Spoonfuls of Sea-water every Morning and Night, which generally procured three mucous and very foetid Stools, washing her Lip often every Day with the Sea-water warm.

By this Method of Cure strictly continued for a Month, the Lip and the axillary Glands were softened, and the Abdomen return'd to its natural Condition, but so that as the Swelling of the Abdomen declin'd, so much the more the Knots appear'd and resisted the Touch, which were before hid under the Tumor.

This Work so happily begun, three Months more were spent in the Cure, excepting every fourth Day in which the Patient was allowed to rest

rest ; for the Swelling of the Lip was intirely subsided ; the Knots of the Abdomen were no longer to be felt by the Fingers ; the axillary Glands were plainly diminish'd, and would certainly have yielded in like manner to this Remedy, if the tender Age of the Patient could have born a longer Use of it ; but being nauseated with repeated Doses, and suffering an immoderate Thirst, which I have observed to torment all those who have long used Sea-water, she was hindered at this Time from proceeding so far as to remove that Tumor intirely ; for her most noble and tender Parents, thought proper, not to exercise any farther, the Patience of their dearest Daughter, thinking that those small Remains of the Disease less troublesome, because less in Sight, were of no Consequence, or might be deferr'd till another Time. I could bring more Examples of those who have been freed from the King's-Evil by the Use of Sea-water, but I think it needless to enlarge upon this Subject. I have selected these Cases out of many, as they seem to have something singular in them beyond the rest, lest by adding many parallel Cases, I should repeat the same Thing over again ; a Repetition of many Cases would be tedious, and give no Confirmation to the Truth of a small Number, and would greatly transgress the Bounds of a Letter.

How great Thanks therefore, are due, and will be given to you by the Sons of Physic, who
have

have struck out and communicated to them, such an easy, safe, and (I might almost say) a certain Method of curing a Disease, which has hitherto been found so very troublesome both to the Patient and the Physician. *I am, &c.*

Dr. RUSSEL's Answer to Dr. WILMOT.

MOST worthy Sir, I received your most obliging Letter, and tho' I have a just Sense of the many Obligations I owe to your Friendship; yet I am at a loss for Words to express it; what you write, that you still hold in the Opinion concerning the Virtues of Sea Water, which (in a very friendly Manner) you formerly readily entertained upon my Testimony, is very agreeable to me for two Reasons, because you did not reject this Medicine, and because it did not deceive your Expectation.

But I am extremely pleas'd that you approve, and are convinc'd of its Virtues by your own Experience; for all Physic is generally, and ought to be built upon this Foundation; for the splendid Names of their Patrons, cannot long support and defend bad Medicines; nor can the Authority of their Opposers long suppress and keep in Obscurity, those that are good; but they will at last break through the opposing Shades, and shine with greater Lustre; altho' the Authority of its Opposers may give some Check to the Progress and Increase of any new Remedy; which you will easily remember to have happen'd in the Rise and Progress of the
Peruvian

Peruvian Bark; and some other powerful Remedies.

And in the same Manner, in which I first recommended this Medicine to you, I have also proposed it to the several Practitioners in Physic, with whom I have happened to converse; imparting to them certain Facts and Experiments that they might judge of them, and being taught by Experience, might be convinced after some Years of the great Efficacy of this Method.

And indeed, as far as I can judge by my Experience in this Matter, it does not appear that any Hurt can arise from hence, unless it is rashly used. Nor did I ever hear any Thing from my Friends, that discovered any hurtful Qualities in this Medicine, but rather all the Testimonies I received from them, unanimously agreed in the Praise of it, and confirm'd its Excellence and Virtues, as well because it opens Obstructions, and dissolves hard Tumors, sometimes even where the Heads of the Bones were affected; and because it cleanses and defends the whole System of the Glands from impure Viscidities. All which it performs so wonderfully, and so safely, that I may truly say, that this new Medicine, is in a manner a Rein deliver'd into the Hands of the skilful Physician, by which he may govern the Secretions of almost all the Glands.

As to the free Use of Sea-water, and the Quantity which may be taken, it does not seem to me to be a Thing so much to be fear'd, as
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some People imagine ; for, I do not remember any Person who was hurt by too much Sea-water ; for many Persons have used it for a Year together, allowing some little Intervals of Rest, with very great Benefit in some very obstinate Cases ; and I now send you an Instance that lately happened of this Matter ; you will find in my Treatise, the Case of a Patient who drank 25 Gallons of Sea-Water in an uninterrupted Course of purging ; in the mean Time, the hereditary King's-Evil disappeared by Degrees, and she daily recovered a better State of Health, and she never had a Relapse, nor any Reason to suspect one.

I call this Disease *Hereditary*, because soon afterwards I saw her Brother labouring under a large suppurated scrophulous Tumor, reaching from the Ear to the Collar-bone.

And these Instances I think sufficiently prov'd, that this Remedy is not liable to those Inconveniences that some People apprehend ; I may also add, that it opens Obstructions, and suppresses Putrefaction, and defends from the Fear of an Imposthume, and strengthens the Tone of the Stomach and Bowels ; and at the same Time, washes the Mouths of the lacteal Vessels, and purges the mesenterical Glands ; by which Means, a sweet and healthful Chyle is transmitted to the Blood in due Quantity ; and the Heat and Draught of hectic Habits, are hereby moderated ; and to speak my Sentiments, among all the Medicines that have a Place in the *Materia Medica* (and they
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are almost innumerable) you will not find any other which may be continued so conveniently, and which so safely opens inward Obstructions as *Sea Water*; if it is not rashly used, nor the Vessels of the Glands burst, nor the morbid Parts grown perfectly scirrhus; for as it dissolves external Tumors of the Glands, so in like manner producing the same Effects every where, it also disperses internal Tumors; for being inwardly taken, it chiefly carries off the morbid Matter by the Glands of the Intestines, which more meely feel its Power and Stimulus, and most easily carry off the Disease by their Discharges; and so, by this Method of Cure, almost all the System of the Glands is exonerated, relieved and purg'd; as it is well known to happen in a Salivation, by the Help of the Glands of the Mouth.

But allowing *common Salt* to be taken by some Persons in greater Quantity than is convenient, (altho', in my Opinion, this seldom happens) yet I do not admit that any Arguments can be drawn from hence against the Use of *Sea-Water*; for the Waters of the Sea are mingled with many mineral Springs flowing into it, and abound with the Helps of Bitumen and Nitre; and various Salts; and are in a Manner enrich'd with the Spoils of submarine Plants and Fishes, and of other Things which are almost innumerable; therefore the *Sea-Water* is to be look'd upon as quite a different Thing from common Salt, which is evident from its different Effects;
and

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and Experience testifies, that the Use thereof is never attended with any bad Consequences if it is given with proper Caution.

And that it confirms the Tone of all the Parts, and gives Strength and Vigour to the whole human Frame, may be infer'd from hence, that those are most inclin'd to Venery, and are stimulated to it that use salt Meats, as it is generally said of Sailors. And it is probable, that the Antients were well acquainted with this Property of Salt, as they feign *Venus* to be born of the Sea, who was the Goddess of Love and Pleasure.

Salt is also a kind of Instrument in the Hands of Nature, which she uses for the Procreation of all Kinds of Plants and Animals, and it is necessary that there should be a due Proportion of it in our Blood, and upon it, in a manner, our Health depends; for if the Kidneys, or any other Glands, are not sufficiently stimulated to perform the Secretions necessary to Health, and preserve entire the elastic Force of the Solids; then the due Secretion of the Lympha being lessen'd, a Dropsy ensues.

But where this Salt fails, and is not sufficient to strengthen the Tubes of the Vessels, the Vessels are thereby relax'd and lose their proper Tone, and also suffer the Fluids to pass through imperfectly secreted: Which happens in a *Diabetes*; for when the Urine begins to flow without this Salt which abounds in the Urine of all

healthful Persons, and resembles the Sweetness of Honey, then presently the Tone of the Kidneys being depriv'd of its due and necessary saline Stimulus, is more and more relax'd, and the small Vessels are weaken'd to such a Degree, that they pour out the Urine in a copious and almost uninterrupted Stream, 'till the Urine sometimes flows out mingled with the Chyle. And some affirm, that red Wine has pass'd thro' the Kidneys without any Change of Colour. But this morbid State of the Kidneys is never relieved 'till that State of the Urine is recover'd, which sufficiently abounds with that Salt.

The Digestion of Ulcers in diabetical Persons will continue no longer than their Urine continues salt. Moreover, I remember to have seen Issues that were made upon the Shoulders against scorbutic Palsies, that were continued for the space of many Years without Danger; but when the Patient was at length seiz'd with a Diabetes, then the Issues spread wider every Day, as long as the Urine continu'd sweet. And altho' the Spirit of Sal Ammoniac resisted the growing Evil better than any other Remedy, and render'd the Fibres of a brighter Colour, yet this always seem'd to me, as it were, to give Place slowly to the Enemy. For if the Force of the Diabetes was not broke by the Bark, nor any other Helps, and the Saltiness of the Urine did not return, the Edges of the Issues used to mortify, and the Patient generally sunk under the Dis-

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Disease ; altho' the Surgeon, at the same time, omitted nothing that the greatest Skill in the Art could suggest.

I was the more willing to relate this Case, because when the Issues were upon the Shoulders there seems to be no other Cause to produce this Misfortune than the Disease alone. And how much the Salts of the Gall, rather than any others, conduce to form cutaneous Eruptions, appears from the Erysipelas, and from more than one kind of scabby Eruptions, as also from certain furfuraceous Foulnesses of the Skin, where the Matter with which the Pustules are filled, is yellow, and deeply ting'd with Gall. And these Eruptions are cured, not by changing the saline State of the Blood, which is a very tedious and troublesome Work, but by bringing away a greater Quantity of Gall from the Liver, by the Use of Purgatives. This plainly appears by Dr. *Friend's* short Treatise *De Excretionibus Intestinalibus*.

Therefore we ought to esteem Salt necessary to preserve the Tone of all the Parts, lest whilst they are continually acted upon by a certain propelling Force, they should lose their Power and Strength, and be enervated, and by their Weakness and Sluggishness give Rise to Diseases.

But I have not mention'd these Things that you should think I use the *Sea-Water* in the Diabetes, for I never try'd it in this Disease; my Design was only to show how much, in my

Opinion, a due Portion of Salt contributes to the Health of the Body. And indeed, that Salt is necessary to Health is plainly demonstrated by what Physicians observe, that those Persons who use little or no Salt with their Food, or who are but little assisted by that internal Salt, either that this is carry'd off by the Flux of Urine, or other Excretions; that such Persons do generally exhale a strong and putrid Smell. And further, that in such Persons the Food generally continues longer in the Stomach and Intestines, and after ExtraCTION of the Chyle a useless Load seems to remain and oppress the Fibres.

And what great Benefit Sea-Salt is to those Animals that eat it with their Pasture, will easily appear upon a slight View. A large Quantity of Salt, taken in this manner, preserves Sheep free from the Distemper which the Shepherds call the Rot, which Disease is often produc'd by wet and rich Pastures, that are not seasoned with Salt: And Examples of this Kind are well known, and very common in this Country.

For if you drive Sheep that are very sound into moist Pastures, that are subject to the Overflowing of Rivers, and the damp Vapours of the *Spring* and *Autumn*, these Symptoms generally follow. At first the Sheep grows suddenly very fat and brisk, but soon after grows dull and heavy-ey'd; soon after a vast Number of Animalcules breed in the Passage of the Gall; then the Liver is tainted and filled with innumerable

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merable Tubercles and watery Vesicles ; then livid and scorbutic Spots arise in the Skin ; then the Wool is easily pluck'd off, or rather falls off. In these Circumstances they call it the *Dry Rot*. But when these watry Vesicles are burst, and the Water is collected in the Abdomen, it is then called the *Wet Rot*. But if you drive Sheep to feed in those Places that are wash'd by every Tide of the Sea, and are therefore salt, then you will find the Rot, and all those Symptoms, suppress'd by Sea Salt, so that there will be no Animalcules in these Sheep, but they will rather be sound and healthful for a long Time.

I will also add, that when Horses are affected with scorbutic Eruptions, and the Horse Doctors have try'd all Means in vain, they often send the Horses in this Extremity to the Salt Marshes, by which the Disease is generally cured.

And these are the Remarks, most learned Sir, which I intended to impart to you concerning my Method, and the Use of Salt, besides those I have taken Notice of elsewhere, which, if your penetrating Judgment shall approve, I shall be extreamly pleased, and shall not repent that I have undertaken the difficult Task of writing.

I am, &c.

A Letter from Dr. LEWIS to Dr. RUSSEL.

Dear Sir,

AT length I perform my Promise, in sending you this Letter, but I am afraid it

will not answer your Expectations, as it contains no studied Thoughts, nor any lucky Invention, nor any Fruits of a penetrating Judgment; I only send you an Account of two Cases in Physic that are faithfully related, tho' in a plain and artless Manner. Whatever Reception it may find it will be a great Pleasure to me to have satisfied your Request, and to prove by this Instance how ready I shall always be to obey your Commands.

C A S E I.

A Man thirty Years old, of a phlegmatic Constitution, and of a lax and spongy Habit of Body, after drinking large Quantities of Liquor, to which he had been too long accustomed, fell into a sudden and violent Pain, about the *Pit of the Stomach*; it extended also over all his Back, as far as his Shoulder-Bones, which would not permit him to breath, to walk, nor to stand upright. He had a foul Taste of Bitterness in his Mouth, with a Nausea, and continual casting up of Gall. The Apothecary was presently sent for, who order'd him to lose a large Quantity of Blood, and to take a gentle Purge to give him two or three Stools. This greatly relieved his Pain, and the Patient, for some Time, thought he had escap'd all Danger; when he soon found his Hopes deceitful, for the Symptoms return'd again with more evident Tokens of a Jaundice. His whole Skin was yellow, but chiefly

chiefly in the Whites of the Eyes, and about the Temples: Both his Body and Mind was affected with a great Sluggishness, and his Strength failed him remarkably; he had a Difficulty of Breathing; his Fæces were few, white, and somewhat viscous; his Urine was so red and thick, that it came near to Blackness, and instead of the foremention'd Pain, he had a troublesome Weight, in the right Side, under the false Ribs, but without any Hardness, or any visible Tumor. I was presently sent for, and consider'd all the Circumstances as carefully as I could, and because there was no Sign of a Fever, or an Inflammation, I thought the Intentions of Cure were only to disperse the Obstructions in the Passages of the Gall, which seem'd to be obstructed with a viscid and chalky Matter; and by this Method the Gall would obtain a freer Course into the Intestines. Therefore I immediately order'd a Clyster, and about the Middle of the Night gave him a Bolus, containing about fifteen Grains of Calomel, and after a purging Potion of the Infusion of Senna join'd with Manna, and Glauber's Salt, both which were repeated three times every third or fourth Day, as the Strength of the Patient would bear it. Besides which he took Vomits; and that every Day might be employ'd towards a Cure, I advis'd him on those Days he did not purge, to take twice a Day five or six of the following Pills, drinking after them four Spoonfuls of the saline Mixture.



℞ Of Castile Soap three Drams, Woodlice prepared one Dram, Syrup of Saffron, enough to make it into moderate Pills.

℞ Of Salt of Wormwood four Scruples, Diuretic Salt one Dram, Juice of Lemons fresh squeezed two Ounces. When the Fermentation is over, add simple Milk-water four Ounces, Water of Nutmeg and Syrup of Saffron of each one Ounce. Mix it.

By exactly persisting in the Course of Medicines the Disease seem'd to give way a little, yet it continued and with great Obstinacy; for tho' the Skin came something nearer to its natural Complexion, yet it was ting'd with Yellowness, and the Pain still remain'd fix'd; but, which was of greater Consequence, he began to lose his Appetite and his Strength entirely. Having seriously consider'd all these Circumstances, I resolv'd to try the Power of *Sea Water*, which has a Stimulus sharp enough to purge the Belly effectually, and to cleanse the Passages of the Gall, and does not hurt the Stomach nor weaken the Patient, but rather augments both the Strength and Appetite: For *Sea Water*, or which amounts to the same, *Salt Water*, was frequently used by *Asclepiades* heretofore in the Jaundice, as *Celsus* relates in the 24th Chapter of the 3d Book; and now again it is used with the greatest Success, most accomplish'd Sir, by your Persuasion, in opening Obstructions of the Glands. I therefore order'd the Patient to drink half a Pint of this Water warm every Morning

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as soon as he rose. And that I might add something of a ponderous soapy Medicine to this saline Stimulus, I prescrib'd the following Electuary, to be taken every Day at four in the Afternoon, and at going to Rest.

R *Of Conserve of Orange-Peel one Ounce, Cinabar of Antimony prepared, and Castile Soap, of each half an Ounce, Woodlice prepared three Drams, Powder of Saffron half a Dram, Syrup of Orange-Peels, enough to make an Electuary.*

This Method of Cure being follow'd for four or five Days, soon produced a Change for the better; the foul and Jaundiced Hue of the whole Habit began by Degrees to disappear, his Appetite and Strength return'd, that very troublesome Sense of Weight which he almost continually felt on his right Side went away entirely, after discharging by Stool a vast Quantity of viscid and bilious Matter; and to be short, he was happily restor'd to his former perfect Health in three Weeks.

C A S E II.

A Beautiful and amiable young Lady, scarcely enter'd into her nineteenth Year, having hitherto always enjoy'd a perfect State of Health, by an accidental Fall struck her left Leg against a Stone, but only so as to raze the Skin. This seem'd to be a slight Hurt, and perhaps in a thousand others less beautiful, and of a more healthy Constitution, it would certainly have proved of no Consequence; but the

Blood that nourish'd this most lovely Form was infected with a scorbutic if not a strumous Taint, which from this slight Cause, as from a Spark, broke out soon after into a most dreadful Fire. This slight Wound was at first neglected and look'd upon as nothing, 'till the Skin seem'd to be inflam'd and distended round about it. Bleeding was soon administer'd and repeated three times, cooling Purges were given, and Emulsions prepar'd with Nitre, and all the Medicines that could appease the violent Emotion of the Blood; and outward Remedies were applied of a mollifying and discussing Quality, under the Care of a very skilful Surgeon, but all in vain, the Evil encreased every Day, and the Inflammation now tended towards a Suppuration: Therefore, that the Bone underneath should get no Damage, as soon as the Pus began to generate, the Abscess was open'd by the Help of a Caustic, and all possible Means used to cure the Wound: But tho' it was now seven Weeks from the Time the Accident happen'd, there was yet no Appearance of healing the Sore: The Wound was foul, and the superincumbent Flesh soft and fungous, the Edges were inverted, and instead of a white, smooth and even Pus it continually discharg'd a thin, foetid and bloody Ichor. Nor was the Cause of these dreadful Symptoms long concealed, for upon a careful Examination of the Ulcer by the Help of a Probe, the Bone was found to be stript of its Mem-

Membrane, the Bone itself being uneven, rough, and carious ; therefore it was necessary to enlarge the Wound, and to make Incisions in the affected Part quite to the Bone, to cleanse it, and to do every thing to promote an Exfoliation, or scaling of the Bone. Nor was it neglected, at the same Time to give the best internal Medicines, which might temper the sharp viscid Humours, and render them fluid, or carry them off by gentle Purgations ; for very small Doses of Calomel repeated at proper Intervals, and Boluses composed of crude Antimony, Æthiops Mineral, and the like Medicines, with Diet Drinks prepared of Lime-water, varied as the Case of the Patient seem'd to require, and sometimes mild Emetics were employ'd to make a Revulsion ; but for fear of a Hætic Fever recourse was had to Asses Milk and Testaceous Powders, to be taken twice a Day ; but I should tire you to relate all the Means used for the Recovery of this most lovely Lady.

In these unhappy Circumstances the Lady was confin'd at home, without resting Night or Day ; for she had lost all the Comforts of Life, being deprived of her Companions, and no longer follow'd by a Crowd of Admirers, but left alone to mourn her unhappy Fate. And though she was grown thin and pale, and almost killed with Grief and want of Sleep, yet still the Charms of her Person remained unconquer'd by the Injuries and Power of the Disease.

Eight Months were now almost past since the Patient had labour'd under this Disorder in spite of all the Assistance of Physic. There appear'd as yet no Hope of Recovery, no Signs that the Bone would scale.

It was often question'd whether the *Bark* would be of any Service, or whether a slight Salivation might not dispose the Humours to a better State? But as one was rejected on Account of the Patient's strength being greatly impair'd, and her being also inclinable to a Diarrhoea, so the other gave little Hopes of effecting a Separation of the Bone, tho' perhaps it might have given her more Strength, and might also have relieved the Hectic Fever.

There remain'd yet one Help untry'd, and that, alas, was the only one, *Sea-Water*, the Power of which in curing scorbutic, and chiefly scrophulous Ulcers hath often been try'd by our best Surgeons; therefore the unfortunate Maid was carry'd to the Town of *Newport* in the *Isle of Wight*, which was not far from the Place of her Abode, and there directly laying aside all other Medicines but Asses Milk, she drank *Sea-Water* in the usual Manner, which at first occasion'd a Nausea and Thirst, as it commonly does; but these Inconveniencies soon vanish'd, in two or three Days. This purg'd her at least thrice a Day; nor did she perceive her Strength or Appetite impair'd by repeating this Purgation, but rather daily improved. Growing cheerful upon this,

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this, and bolder with the Hope of recovering her Health, she dipp'd herself in the Sea, first only twice a Week, then three Times, and at last every Day ; and always after bathing in the Sea return'd home with more Strength and Spirits. But not to detain you any longer by Particulars, after four Weeks resolutely spent in drinking and bathing, the Appearance of the Ulcer was chang'd for the better, the thin, foetid, sanious Matter that daily flow'd from it in large Quantities, now was turn'd to a white thick Pus, without any Smell, and not in such Quantity as before ; the Edges appear'd soft, even and depress'd, and at length, by good Fortune, the corrupted Part of the Bone, which began to shake upon the Touch of the Probe, was entirely separated from the sound Part. From that Time all Things went on successfully ; the Cavity of the Ulcer seem'd to decrease more and more every Day, the white bluish Edges growing closer together, and drying up, and at last, in three Weeks more, was cover'd with a firm Scar.

The young Lady being sensible of her returning Health, used to appear publickly every Day, and go into Company, and enjoy the Pleasures of her former Life : And though she was confin'd almost a whole Year by a grievous Disease, in a languishing Condition, which could not be worse unless she had been entirely confin'd to her Bed ; yet upon recovering her
Strength,

Strength, her charms shone forth with a new Bloom of Youth ; and I may say she rose from the Sea like *Venus* adorned with the utmost Graces and Beauty.

This is what I have to communicate to you at present, most accomplish'd Sir, and will not detain you any longer ; for I should think myself unjust to Mankind if, by these Trifles, I should take up any more of your precious Time, which is so happily employed in the Service of the Diseased. Continue to give Health to suffering Mortals ; and continue to improve our Art with your Genius, to illustrate it with your Writings and to support it with the Fame of your Reputation ; in the mean Time, pardon my Boldness in venturing to say any Thing of Medical Matters before so great a Judge.

Farewell worthy Sir, and condescend to receive me into the Number of your Friends, who shall always have the greatest Respect and Esteem for your Merit, I am &c.

Christ-Church, Oxford, March 1, 1749.

Dr. RUSSEL's Answer to Dr. LEWIS.

Most accomplish'd Sir,

I readily send you the Case of a *scrophulous Caries of the Leg*, which I intended to add to the several Cases before collected ; but how it came to be omitted I cannot recollect. I was willing to give this also into your Hands, that you might know what this Method will effect in

in a Hectic Fever, arising from morbid Glands, when the purulent Matter is ejected by Spitting. Indeed an Exfoliation seems to be assisted by a Derivation of the Humours from the Part affected; for thus the Bones are not so much moisten'd by a constant Flux of watry Humours, and the drier they are, so much the easier do they scale.

A Lad about twelve Years old (whose Brother is mentioned in the 31st Case) was reduced to the last Extremity by a Hectic Fever; he had a Cough and Night Sweats, with a Difficulty of Breathing upon walking; he had a foul and purulent Spitting; the Glands of his Neck were morbid and hard; and there was an Imposthume upon each Leg, with a Caries or Rotteness of each Fibula, (the smaller Bone of the Leg) near the Heel. This Boy, when he first drank the *Sea-Water*, was wasted to a surprizing Degree; but when he had used it six Weeks the hectic Fever abated, the Cough and Night Sweats went off, and no fresh Tumors rose. While he continued drinking *Sea-Water*, the Bones of his Legs scaled, and the Tumors of the Glands were entirely dispersed. In six Months he grew well, and from that Time he has had no Sign of a Relapse.

Will you also give me leave to declare my Sentiments upon the general Cause of morbid Glands, I know you will easily grant it me, and I take the Liberty which your Candour affords me.

It appears to me that Parents most commonly
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have Children that are like themselves in Constitution. The Children of those Parents that are of a lax Habit of Body, are also weak and infirm, whence it happens that the Glands are subject to the same Fluxions that I suppose are in their Parents. And therefore I do not think the King's-Evil arises so much from a certain Infection, or hereditary Taint, as from a weak and bad Tone of the whole System of the Glands. And this seems to me to be the Fact; but as this is merely a *Theory*, if others are of a different Opinion, I do not set so great a Value upon my own as to contend stiffly about the Matter. But this is certain beyond all Controversy, that the Glands, by Reason of their loose and weak Texture, are more subject than other Parts to repeated Attacks of the Disease; not to say that many of them sometimes seem to be quite incurable. Moreover, when there is a Redundance of any thing in the Body, which hath been a long time discharg'd by this or that Passage, by the Aid of some Secretion, which by custom, is made as it were a Law, then it is evident that there is necessarily a Decrease of the Secretions of the other Glands, which threatens some Danger to those Parts. Whence in some Leprosies, both dry and moist, which I could never cure by *Sea-Water* or any other Medicines, I observed that the Patients, for the most part, while the Disease is thrown out by the Skin, had a less Flux of Urine (like those who are inclin'd to

a Dropsy) and that all other Secretions had not their usual Freedom. And indeed in these most severe Disorders of the Skin, there is sometimes not the least Hope of a perfect and establish'd Cure: For the Evacuation which has continued so long by these Passages, having broken, or very much weakened the Tone of the Part, upon the first Plenitude that happens the Disease flows again the same Way; as in a Gonorrhœa, where the Glands are changed from certain other Causes. But if we do but rightly touch upon the History of Leprosies, I think it will easily appear, that the cutaneous Glands were not destin'd for such a considerable Work as is requir'd for carrying off these Diseases. They seem plainly to me to be formed for Assurances, which, whenever the other Secretions are by Accident obstructed, might administer their Help, and having performed that Office, they ought to return to their natural Form by their own Elasticity, and be entirely restored; for whatever Part of the Body is a long time more distended than the Laws of Nature permit, is evidently morbid, and liable to Obstructions and Tumors, and such like Disorders: And that the warmer Countries are more infested with these Disorders than the Cold, there can be no room to doubt, if we give Credit to Authors, who describe the Northern Leprosy as being less virulent, nor accompanied by such Variety of Miseries as the *Leprosy*, or *Elephantiasis* of the *Greeks*, which, tho' it is quite unknown in *Europe*, yet where
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the Fluids are more attenuated by the Heats of the Sun, and the Evacuation by the Skin is more copious, as in *Egypt*, it is common, and the Vessels of the Skin being at length obstructed, it rises to a greater Height. And indeed this Disease rages to that Degree in these Places, if we believe *Prosper Alpinus*, who lived a long time in the great and famous City of *Egypt*, formerly called *Memphis*, and now *Cairo*, that a great Part of the People labour under the *Elephantiasis* of the *Greeks*, which is the most obstinate Kind of Leprosy. But you may consult the Author's Book *De Medicina Ægyptiorum*, p. 25. where he says, *There goes about another Elephantiasis as was mentioned before; those who are seized with it have their Feet tumid, big and misshapen, with many great and hard Tumors, very much resembling the Feet of Elephants, joined with swelled Legs and Thighs; in which, however, the Patient feels no Pain, but is only hindered in walking. I have seen many of them who went with wooden Cases upon their Feet instead of Shoes, and who crept along very slowly, and with much Difficulty. This Disease is common at Cairo. Does any thing like this happen amongst us? Nothing sure that is general and common. And the same Author says, The Leprosy and Elephantiasis of the Greeks is always found upon many poor People. I see no Reason to think Alpinus mistaken in his Account of this Disease: As it was daily before his Eyes, and he must have read the Description of*
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it in several Authors ; and also that of *Aretæus*, who describes it most elegantly ; especially as he was versed in the politer Parts of Learning as well as in the Science of Physic.

Being lead by these Arguments, I judge that when we fail of Success in these Diseases, we are not to lay the Blame upon the Fault of the Medicine, but upon the Texture of the Solids, which are not only weaken'd but destroy'd by the Length of the Disease ; for which Reason, I have no sure and certain Hope of a Cure but in recent Fluxions ; altho' this Method of Cure often answers even in those inveterate Cases. But the skilful Physician will sometimes judge that this is not to be undertaken by any Means.

I have lately undertaken to cure, for the first Time, a Boy troubled with the *American Evil*. His whole Head is covered with a kind of Tumors like Mushrooms of a dark brown Colour : His Neck is full of hard scrophulous Glands. The Disease is called the *Yaws* by the People in *America*. The Cure has hitherto baffled all Endeavours of the Physicians at *Jamaica* and here also ; but because the Medicines I have used but a short Time, have a good Effect, I have Hopes of performing the Cure. But you shall be acquainted hereafter with the Success of this uncommon Case, and indeed it is entirely new. It is not long since my Friend Dr. *Wilmet*, with his usual Courtesy, hath kindly communicated to me some Extracts from *Scribonius Largus* which relate to my Method, by which it
appears,

appears, that *Scribonius* made use of *Sea Water*, to disperse Tumors of the parotid Glands behind the Ears, before they had suppurated. He says, *Having dipp'd new Sponges in hot Sea-water, and wrung them in a Linen Cloth, let the Parotides be fomented with this Medicine, and afterwards covered over with sulphurated Wool.* See *Scribon. Larg. Chap. 6.* Then in the 41st Chapter, where he speaks of both Kinds of the Gout, the hot and cold, we find the following Words, *When the first Violence of the Fit is over, both in this and the former Kind of the Gout, the Parts are to be long fomented with warm Sea-water: But if this cannot be had, put Salt into hot Water, and afterwards use the Epithem before prescribed; for it carries off the Remains by Perspiration, and strengthens the Nerves for the future, and prevents their being easily vitiated.* It is certain, that *Sea Water* is a very powerful discutient, and I am persuaded that this Quality is chiefly owing to its Sulphur and Bitumen. *Bolducius*, writing on the *Bourbon Waters*, thinks they contain a mineral Sulphur, or rather Bitumen, which is communicated to them by the Sea-Salt, which is evidently found in these Waters, (for Sea-Salt always contains more or less Bitumen) and which the Alcalies that abound in these Waters, preserve in a fluid State. In the same Place he gives a Method of separating them. The separation of these Alcalies is performed by Spirits of Wine infused in the lowest Parts of the Water, in which there

is the greatest Quantity of these Substances. The Alcalies sink to the Bottom, and the Bitumen, being separated, ascends in Drops to the Surface of the Water, or cleaves to the Sides of the Vessel. *See the History of the Royal Academy of Sciences, Anno 1729, p. 33, 34.*

This does not only confirm, that the *Sea-water* contains a pretty large Quantity of Bitumen, but likewise shews us, in some manner, what we are to expect from its Assistance.

But I cannot help acknowledging, most accomplish'd Sir, that the Pursuit of these Enquiries has afforded me a deal of Pleasure, both because it has made me acquainted with Persons of the greatest Character; and because it has excited me, tho' now grown old, carefully to search into the Writings of the Ancients, which, being entirely engag'd in Practice, I had for a long Time almost quite neglected.

I desire you to return Thanks in my Name to those kind Gentlemen, *Jos. Kane*, and *William Holwell*, who took the Pains to correct the Press in your Absence, which Favour I shall always gratefully acknowledge.

I received your two Cases, which are wrote with your usual Elegance, and thank you for not deferring to send them, and would have returned the Obligation, as well as I could, by the Case of a Caries on the Shin-Bone, cured by *Sea Water*, if I had not received it too late to be inserted in this Edition. Improve in Virtue, most friendly Sir, and go on to cultivate
the

the Art of *Healing*, which you have undertaken, and raise it to the highest Degree of Perfection ; * *and may you always keep in View that Mortality which you are sure of escaping by this single Monument.* I repeat my Wishes for your Welfare, and that you may always continue your Friendship for him who will always bear you the greatest Affection. *I am, &c.*

A Letter from Dr. RUSSEL to Dr. LEE.

NOT long since, I sent you, most accomplish'd Sir, a Letter concerning the Use the Ancients made of *Sea Water* ; and I must ask Pardon for interrupting that Leisure which you so worthily enjoy after your honourable Employment ; but at that Time, I could not recollect where I had those Extracts from the Ancients, nor dispose them in proper Order ; so I was wholly taken up with the Care of our common Employment ; therefore, I request you once again to consider this Matter.

I think it would be Labour in vain to endeavour to trace this Part of Physic higher than the Age of *Hippocrates* ; as the Art of Physic was less cultivated in that Space of Time, that falls between the *Trojan* and the *Peloponnesian* Wars ; and if you believe *Pliny* †, it was entirely neglected. But at length, we read, that *Hippocrates* who is properly stiled the

* *Pliny's Epistles, Book XI. 10.*

† *Pliny's Nat. Hist. Lib. 29. Cap. 1.*

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the Father, and the Prince of Physicians in his Book of * Epidemic Diseases, gave Sea-Water for a Clyster; which plainly proves, that *Hippocrates* was acquainted with this Medicine; and in his Dissertation on Air, Water, and Places, he speaks much of certain Waters, which he calls Salt, and affirms, that they do not agree with all Distempers and Constitutions; but he says, nevertheless, that there are some Distempers and Constitutions in which this Water may be conveniently taken.

Then from the Age of *Hippocrates*, till the Time that *Pompey* subdued *Mithridates*, King of *Pontus*, the Grecian Art of Physic was little cultivated at *Rome*; but the Fame thereof reviving about that Time, *Archagathus* and *Asclepiades* carried it to *Rome*, and being cultivated there by their Disciples, the expiring Art was in a Manner restored to Life; then also, under the same Masters, the Use of *Sea-Water* for purging soon grew common; and unless I am mistaken, they made very great Use of this Medicine, as often as they thought any Thing more gentle than Hellebore, and the like strong Medicines necessary. For according to † *Celsus Asclepiades* who was the second that flourish'd after the Revival of Physic at *Rome*, although he used to censure all Purgatives as hurtful to the Stomach; yet in Fact, acknowledged their Usefulness; for he still retain'd them in his Practice, and used to

* *Hippocrat. Epidem.* † *Celsus Book III, Cap. 24:*

give *Salt Water* two Days together for a *Purgative*; also the same *Celsus*, who was the next after *Themison*, writing on Purgatives, shews there were two Kinds of *Salt Water* in Use amongst the Antients, both which were given to loosen the Belly; one of these, I mean, *Sea-Water*, Nature easily suggested; the other, which used to be made with *Salt*, was substituted in its stead by the Art of Physic; and he informs us also, that *Sea-Water* is a sharper Medicine, and that a Medicine purges more briskly the sharper it is; and it plainly proves, that this Medicine was not entirely neglected, and as it were banished by *Asclepiades*, in as much as he invented the Wine, call'd *Tethalassomenon*, which is a milder Composition of *Sea-Water*; and this we learn also from * *Cælius Aurelianus*, who writes, that *Asclepiades* us'd to give Wine join'd with *Salt*, in the Distemper called the *Cardiac Passion*; but in describing this early State of the *Grecian* Physic at *Rome*, it would be the greatest, and almost unpardonable Negligence to pass by the Name of † *Aretæus*; who (if you except one) was far the best Writer of the *Greek* Physicians; and indeed, he mentions *Sea-Water* twice or thrice in his Books; and proposes the Drinking of it in one Place, and in another mentions in a Letter, something worthy of Notice concerning its great Virtue

* *Cælius Aurelianus*, B. II. C. 39. † *Aretæus*, B. I. C. 15. of Chronic Diseases; and B. I. C. 8. of Acute Diseases; and B. II, C. 1. of Acute Diseases. jñ

in drying up Ulcers ; and this Property of Sea-Water is proved by modern Experience, for our Surgeons have experienced its Power of healing in scrophulous Ulcers of the Joints of the Wrist and Ankles, and the same is fully shewn in the several Examples mentioned in my Dissertation.

But let us pass over to the subsequent State of this Medicament. *Cornelius Celsus*, who is said to have flourish'd under the Reign of *Tiberius*, testifies, that *Themison*, who besides many others, was of the School of *Asclepiades*, prescrib'd Brine in a Dysentery ; and † *Pliny*, also writes, *Brine is useful in Dysenteries, even where there are Nomæ or creeping Ulcers of the Intestines : As also in sciatic Cases, and to those who are affected with an inveterate cæliac Passion. In the inland Countries it is us'd for Fomentations instead of Sea Water.*

From hence, it plainly appears, that this Salt Medicament was not used only in the Dysentery, but even in those Cases where the Intestines were affected with *Nomæ*, or eating and creeping Ulcers ; by which Word *Pliny*, in many Places, translates and expresses the *Herpetas* of *Dioscorides*.

It is evident therefore, from the foregoing Observations, that *Sea-Water* was a Part of the *Materia Medica*, from the Time of *Mithridates's* Defeat to the Age of *Tiberius Cæsar* ; and then those two Writers, *Pliny* and *Dioscorides* (who liv'd much about the Times of *Nero* and *Vespasian*) transcrib'd many Things from the antient Physi-

† *Pliny*, Book XXXI. Chap. 8.

ans into their own Works ; both which left to Posterity whole Chapters, wrote upon this Medicament ; but I shall only add one or two Remarks of *Pliny* on this Subject, because you will find many Things from this Author mentioned before in my Dissertation ; but I would have you take Notice, that I do not remember to have mention'd that the extraordinary Power of Salt in evacuating the Lymphatic Vessels, when they are distended by drinking large Quantities of any medicinal Waters, did not escape the nice Observation of the Ancients ; for the same * *Pliny* testifies, *that he had seen some Persons swelled to that Degree with drinking, that their Skins were covered with Rings, when the vast Quantity of Water they had drank did not pass off ; and therefore, it is wrong to drink so much without the frequent Use of Salt.* Which Words of *Pliny* plainly shew, that Salt was given in those Times to stimulate the Glands of the Intestines, that they might perform their Secretions more copiously, and that they might entirely suppress or relieve that Uneasiness which generally succeeds the drinking of too much Water. And as the Antients had observed, a Nausea happened sometimes after drinking *Sea-Water*, they thought it did not agree with, and was hurtful to the Stomach ; but yet, they found by Experience, that its Salt helped Concoction, whetted the Appetite, and increased the glandular Secretions ; and for this Reason, they gave it their Cattle, and Flocks, for

* *Pliny*, Nat. Hist. Book XXXI, Chap. 6.

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† *Pliny* writes, that *Sheep* and all *Kinds of Cattle* are greatly excited to feed by *Salt*, and this gives them more *Milk*, which makes the best *Cheese*. But if any one would be further inform'd of the Nature of the *Salt* and *Brine* of the *Ancients*, he will find sufficient Matter of Enquiry in the *Exercitationes in Solinum* of *Salmasius*, and the *Definitiones Medicæ* of *Gerræus*.

But in the mean Time, I must descend a little lower to know the State of this Medicament at that Time, and let us see its Reputation in the Reigns of *Caracalla* and *Gordian*.

And about that Time, *Q. Serenus Samonicus* flourished, he who was put to Death at the Command of *Caracalla*, and was reported to have collected 60,000 Volumes, or more, as some say ; he was a remarkable Lover of Learning, and a noble Patron of the Learned ; his Son was Preceptor to the Emperor *Gordian* the Second, but which of these wrote the Poem on Physic, has been long and much disputed ; I cannot decide the Debate, or if I could it would be nothing to my Purpose ; for I think it will be sufficient if I prove the Use of *Sea-Water* was common, and greatly praised by all those who being acquainted with this most liberal Art, have mention'd it in their Writings.

We have seen that this Medicament continued in Use, from the Age of *Hippocrates*, to the Reign of *Caracalla* ; and † *Serenus Samonicus* testifies,

† *Pliny's Nat. Hist.* Book XXXI. Cap. 6.

† *Q. Serenus Samonicus*, Cap. 5. *Idem*, Cap. 6, & 20.

that it was not us'd alone to cure those Diseases already mention'd, but was also given in many other Cases; for he proposes it against the Itch, and the *Phthiriasis*, or lousy Disease; it was given also in some bilious Disorders, and as a simple Purgative. In the same Place he describes the *Thalassomeli*. *Pliny*, *Marcellus* and *Serenus*, do all with one Accord praise *Sea-Water* against tumefied Testicles; for *Pliny* writes, † *that it is preferable to every Thing to foment tumefied Testicles; and Marcellus says, let tumefied Testicles be moderately fomented with Sea-Water*; and this led me to apply a Cataplasm in this Case, made of Barley and Bean-Flour, boiled in *Sea-Water*, and join'd with *Unguentum Nutritum*, and I found it a very powerful Discutient.

Moreover ‡ *Samonicus* confirms, that it is beneficial in the Sciatica, in the Gout, where he describes the *Vinum Tethalassomenon*, and also in Quartan Agues:

Prodest vel Potus, vel mulsus Doridis Humor:

But by the Word *Doris*, *Serenus* understands *Sea-Water*; using the same Word, by which *Virgil* expresses the Waters of the Sea in his tenth Eclogue; which is plain in this Place by the Addition of the Epithet *amara*, *bitter*, which is the distinguishing Quality of the Sea; and he was so happy in the Choice of Epithets, that by their Help, he cou'd

† *Pliny's Nat. Hist. Book XXXI. Cap. 7.*

‡ *Q. Serenus Samonicus, Cap. 38.*

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explain the Differences of Things, and their most secret Quality.

This is the Verse of that divine Poet :

Doris amara suam non intermisceat undam.

And the same † *Samonicus* shews, that *Batic Salt* was given in the Piles, and in some Distempers of the Eyes.

Therefore, many Forms of prescribing derived their Original, both from *Salt* and *Sea-Water*, in the flourishing State of ancient Physic.

And unless the Ancients had prov'd their great Virtue and Power by a long continued Practice, certainly these Medicaments would never have continued in Use, and grown more general for so many Ages as from the Time of *Hippocrates*, to the Reigns of *Caracalla* or *Gordian*; but if it was necessary, it would be both an easy and very entertaining Labour to extract almost an infinite Number of Prescriptions from the Writings of the Antients.

But I subjoin a Plaster of Salt (the *Greeks* call it *ἡ ἀλάς*) which I find amongst many others describ'd by *Scribonius Largus*, and which he says is good to discuss every Hardness; it is made thus :

‡ *Sea-salt, Cerufs, old Oyl, of each equal Weights; the Cerufs is boil'd with the Oyl till they unite, and afterwards the Salt is put in.*

This was us'd by the *Greeks*, and I think, it is plain enough, from what has been premised, that the Ancients used Salt in dissolving hardish Tumors.

† *Q. Serenus Samonic. Cap. 65.* ‡ *Scrib. Larg. Cap. 86.*

Although I have already mentioned the Wine called *Tethalassomenon*, and the *Thalassomelite* and *Brine*, and other Forms of Medicaments, which I judge were derived from Sea-Water and Salt ; yet there remains another saline Medicine preserv'd by *Marcellus*, which I have not yet taken Notice of, for that Author says, that

† *Whey of Cows Milk mixed with Honey, and a due Quantity of Salt, being drank, is good to move the Belly when bound ; and the like without Honey, is extant in Hippocrates Latinus.*

Thus I have reviewed, and as I think, sufficiently explained to you the Use which the Ancients made of Sea-Water, as well in exonerating the Lymphatic Vessels, as in dispersing hardish Tumors, and against all Putrefaction ; you will also readily allow that it was used in various Methods and Prescriptions, to repress that Putrefaction of the Fibres, which we sometimes find in the Scurvy, and some other severe Obstructions. For * *Pliny* highly commends the Use of Salt against the Putrefaction of the Gums (which is always a great and in a Manner, an inseparable Sign of the Scurvy) and thinks it a certain Method to preserve the Teeth from Erosion and Rottenness, to hold Salt under the Tongue every Morning fasting till it dissolves ; and a little lower, he enlarges in the Praise of Salt ; *it astringes, dries, unites and even preserves dead Bodies from Putrefaction, so that they endure for Ages.*

Therefore, after long and serious Consideration of that scorbutic Putrefaction that usually infests

† *Pliny's Nat. Hist, Book XXXI, Cap. 9.*

Seamen in long Voyages, I must conclude, that it is falsely and without any just Ground attributed to their salt Provisions ; and I think, I may truly affirm, that Salt does not only preserve Meat from Corruption, but from the same Cause, it does also defend Sailors from that corrupt and morbid State ; and I think you will be of my Opinion, if you reflect on the Strength and flourishing State of Health which poor Country People enjoy, who are employed in plowing, and other Labours of Agriculture, and who have such strong Nerves, that they are almost able to undergo the same Fatigue as their Cattle ; and at the same Time live upon the same Food as Seamen ; and indeed, have less Variety ; for go which Way you will, you will find many in every Country, that have lived perhaps for the Space of 30 Years upon no fresh Meat, but salt Beef and Bacon, and various but ordinary Sorts of Pudding, unless perhaps, on some high Holiday, they buy a Bit of fresh Meat to feast withal, and think it Luxury ; and yet these People are generally stronger, and have better Health, than those who live in a better Manner, and indulge themselves in Dainties and high Feeding.

Therefore, as the Rule and Method of Living of Seamen and poor Country People, differ only because the former want the Help of Exercise, and are always surrounded by the Waters of the Sea ; I judge, that the Principles and Causes of this Sea Distemper are to be more truly found elsewhere.

I think,

I think, it is generally allowed, there is something born with, and as it were implanted in the Nature of land Animals, that they can by no Means bear a Life continually passed upon the Waters; as Fishes, and those Kind of Animals that are called *amphibious*, and partake of both Natures, cannot be always depriv'd of that same Water, without the Loss of Life. We see that the Inhabitants of muddy Fenns and Marshes, and those that live in low wet Grounds, surrounded with thick Woods, are subject to certain grievous Distempers about the Spring and Fall of the Leaf, which plainly shews us, how much the Nature of Man is hurt by continuing long in a damp Air, because the Tone of the Fibres being thereby relaxed, suffers a great Weakness. † For about the Time of Spring and Autumn, the Sun has a Power of Heat sufficient to raise a great Quantity of Exhalations from the Earth, but is not long enough above the Horizon to heat the Air, so as to raise them to a

† I am afraid the Author's Reasons will not hold good in this Particular; for though the Laxity of the Fibres will certainly contribute to the Generation of some Diseases, yet that is not merely the Cause of the Insalubrity of low marshy Countries. They certainly abound with Exhalations of a very malignant Nature; which drawn in by the Breath or entering the Pores of the Body, are the more immediate Parents of those Diseases to which the Inhabitants of those Places are subject. Besides the morbid Seasons are not the Spring and Fall; for they often begin, not in the Spring, but in *July* and *August*, as I have found by Observation in the *Hundreds of Essex*. And with Regard to the Sailors living on *Salt-Meats* it is very well known, that nothing is a more certain Cure for the Scurvy in long Voyages than a *Vegetable Diet*, and a Suspension from living on the Ship's Provision. This is mention'd with all due Deference to the Author's Merit and submitted to his Consideration.

proper

proper Height, or to attenuate them so that they may be presently dispersed and carried off by the Winds ; therefore, they are condensed again, and being changed into Vapours and moist Fogs, they hang a little above the Earth, and in a Manner enclose the Inhabitants. And hence, their Fibres are relaxed, and the Tone of the Solids is so broken and weakened, that they cannot compress nor subdue the Fluids with a proper Force ; but that State of the Blood is produced that happens in intermitting Fevers ; then by Degrees, the Person is infested with a scorbutic Putrefaction of the Gums, and at last, with scorbutic Spots, and tumefied Legs and Thighs ; I have seen some Instances of Patients, who had the Tone of their Solids so violently broken, and the true State of the Blood so highly vitiated, that I have sometimes seen the Blood issue plentifully at their Fingers Ends, which could not be stopt without great Difficulty ; and I have many, and, as I think, great Reason to believe, that these Diseases owe their Origin to a relaxed Tone of the Fibres.

First, because the Disease never rages so violently, nor rises to such a Height, but where the Force of the Solids was before broken by the long Continuance of the Disorder ; for Nature, a long Time opposes the growing Evil, but is constrained at last to yield.

Secondly, because whenever the Patient is reduced to this Extremity, the Cure can never be effected without the Help of Astringents, such as the
Peruvian

Peruvian Bark, Winter's Bark, Acids and Vitriolic Medicines; or the styptic Preparations of Steel, styptic Wines and the like; also subacid, unripe Fruits, are found serviceable in scorbutic Disorders for the same Reason; that is, because they are astringent and deterfive.

And lastly, because it appears by constant Experience, that the Inhabitants of the Sea Coasts where the Shore is clean, and is not foul'd by the Mud, or Filth of Havens, or Arms of the Sea, and where they are not surrounded with frequent Fogs and Vapours, they are less subject to intermitting Fevers and scorbutic Disorders than those who live in the Inland Countries, where the Land is low and wet, and full of Woods.

And thus, if the human Body continues long in a moist Air, which it must necessarily take in at every Respiration, and attract and absorb'd by all the Pores of the Skin; or lives in fenny or woody Countries, we perceive the same Symptoms generated as are called scorbutic in Seamen; for the Perspiration grows less by Degrees; then the Glands of the Skin, or rather the whole System of the Glands is a little affected; for as the Perspiration is lessened, they are loaded with a greater Burthen; and if we believe the *Italian Sanctorios*, there passes off by Perspiration fifty Ounces in twenty-four Hours; but our Countryman Dr. Keil, thinks it to be only about thirty Ounces. But if this Perspiration is obstructed the Body must necessarily suffer for a Time, as it happens even upon
taking

taking a slight Cold, where the Disorder does not go off but by the Help of a warmer and drier Air which encreases the Perspiration. But if the Obstructions of all the Pores are increased, then the Seamen are deprived of this Help, as well as of Exercise; and hence it happens, that the Disease cannot sometimes be restrain'd by the Power of Medicines 'till the Patients enjoy a drier Air. And the extreme Obstinacy of this Disease, and what Relief may be had if the Seamen continues upon the Sea may be proved by the Lord *Anson's* Voyage, and also by daily Experience; for they are sooner and more easily recovered, if they come ashore where the Air they breath is better and drier.

The Reason of which is known to the People of *Norway*, and is observed by them in the Cure of the Scurvy; for as *Bartholinus* writes in his Treatise *De Medicina Danorum Domestica*, they do not gather Mulberries and carry them home to the Patients, but think it better to go to Places where they grow, and eat what Quantity they will, and stay upon the Place 'till the Scurvy disappears.

I have thus laid before you, most accomplished Sir, almost every Thing that the Antients thought *Salt*, and *Salt Water* could perform against Putrefaction, which perhaps some will think more and others less, than the Nature of the thing requir'd; but your Candour will easily pardon a Slip in such a difficult Way, and which has been so little known:

But of what Weight are these Authorities of the Antients, and how little are they to be minded if compared

compared with the singular Use which you have found of this Medicine from your own Experience, or what are those Testimonies of the Dead, if compared with the Examples of Thousands now living who daily drink Sea-Water, who, if they had not found it very beneficial would certainly have neglected it long ago ?

I send you also an Account of a Cure lately performed. You will find there that the Patient was purged a long Time with Sea-Water, for she drank it every Morning in a continued Course 'till she had taken twenty five Gallons, a great Quantity indeed, and by this Means the scrophulous Disorder with which she was troubled by Degrees disappeared, and her Health was in every Respect better established than ever.

And these Arguments may suffice to remove all Prejudices, at least of those who will hear Reason; for it ought to be inquired into whether a Medicine is good in some Distempers or not ? Nor is it so much the Business of a Physician to spend his Time in Discovering the Sources, and obscure and remote Causes of Diseases, as to embrace whatever may conduce towards their Cure ; and to think, that
† These Conjectures about the latent Causes of Things are of no Consequence, because it does not signify what occasions a Disease, but what will cure it.

I am, Sir, &c.



Cels. Pref. Lib. I.

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